

SAP Data Services

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# Installation Guide for Windows

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# 1 Introduction

## 1.1 Welcome to SAP Data Services

### 1.1.1 Welcome

SAP Data Services delivers a single enterprise-class solution for data integration, data quality, data profiling, and text data processing that allows you to integrate, transform, improve, and deliver trusted data to critical business processes. It provides one development UI, metadata repository, data connectivity layer, run-time environment, and management console—enabling IT organizations to lower total cost of ownership and accelerate time to value. With SAP Data Services, IT organizations can maximize operational efficiency with a single solution to improve data quality and gain access to heterogeneous sources and applications.

### 1.1.2 Documentation set for SAP Data Services

You should become familiar with all the pieces of documentation that relate to your SAP Data Services product. The latest Data Services documentation can be found on the [SAP Help Portal](#).

Document	What this document provides
<i>Adapter SDK Guide</i>	Information about installing, configuring, and running the Data Services Adapter SDK
<i>Administrator Guide</i>	Information about administrative tasks such as monitoring, lifecycle management, security, and so on.
<i>Customer Issues Fixed</i>	Information about customer issues fixed in this release.  <b>i Note</b> In some releases, this information is displayed the Release Notes.
<i>Designer Guide</i>	Information about how to use Data Services Designer.
<i>Documentation Map</i>	Information about available Data Services books, languages, and locations.
<i>Installation Guide for Windows</i>	Information about and procedures for installing Data Services in a Windows environment.
<i>Installation Guide for UNIX</i>	Information about and procedures for installing Data Services in a UNIX environment.
<i>Integrator Guide</i>	Information for third-party developers to access Data Services functionality using web services and APIs.
<i>Master Guide</i>	Information about the application, its components and scenarios for planning and designing your system landscape. Information about SAP Information Steward is also provided in this guide.

Document	What this document provides
<i>Management Console Guide</i>	Information about how to use Data Services Administrator and Data Services Metadata Reports.
<i>Performance Optimization Guide</i>	Information about how to improve the performance of Data Services.
<i>Reference Guide</i>	Detailed reference material for Data Services Designer.
<i>Release Notes</i>	Important information you need before installing and deploying this version of Data Services.
<i>Technical Manuals</i>	<p>A compiled, searchable, “master” PDF of core Data Services books:</p> <ul style="list-style-type: none"> <li>• <i>Administrator Guide</i></li> <li>• <i>Designer Guide</i></li> <li>• <i>Reference Guide</i></li> <li>• <i>Management Console Guide</i></li> <li>• <i>Performance Optimization Guide</i></li> <li>• <i>Integrator Guide</i></li> <li>• <i>Supplement for J.D. Edwards</i></li> <li>• <i>Supplement for Oracle Applications</i></li> <li>• <i>Supplement for PeopleSoft</i></li> <li>• <i>Supplement for Salesforce.com</i></li> <li>• <i>Supplement for Siebel</i></li> <li>• <i>Supplement for SAP</i></li> <li>• <i>Workbench Guide</i></li> </ul>
<i>Text Data Processing Extraction Customization Guide</i>	Information about building dictionaries and extraction rules to create your own extraction patterns to use with Text Data Processing transforms.
<i>Text Data Processing Language Reference Guide</i>	Information about the linguistic analysis and extraction processing features that the Text Data Processing component provides, as well as a reference section for each language supported.
<i>Tutorial</i>	A step-by-step introduction to using Data Services.
<i>Upgrade Guide</i>	Information to help you upgrade from previous releases of Data Services and release-specific product behavior changes from earlier versions of Data Services to the latest release.
<i>What's New</i>	Highlights of new key features in this SAP Data Services release. This document is not updated for support package or patch releases.
<i>Workbench Guide</i>	Provides users with information about how to use the Workbench to migrate data and database schema information between different database systems.

In addition, you may need to refer to several Supplemental Guides.

Document	What this document provides
<i>Supplement for SAP</i>	Information about interfaces between Data Services, SAP Applications, SAP Master Data Services, SAP NetWeaver BW, and SAP Master Data Services.

Document	What this document provides
<i>Supplement for SuccessFactors</i>	Information about interfaces between Data Services and SuccessFactors.
<i>Supplement for Salesforce.com</i>	Information about how to install, configure, and use the SAP Data Services Salesforce.com Adapter Interface.
<i>Supplement for J.D. Edwards</i>	Information about interfaces between Data Services and J.D. Edwards World and J.D. Edwards OneWorld.
<i>Supplement for Oracle Applications</i>	Information about the interface between Data Services and Oracle Applications.
<i>Supplement for PeopleSoft</i>	Information about interfaces between Data Services and PeopleSoft.
<i>Supplement for Siebel</i>	Information about the interface between Data Services and Siebel.

We also include these manuals for information about SAP BusinessObjects Information platform services.

Document	What this document provides
<i>Information platform services Administrator Guide</i>	Information for administrators who are responsible for configuring, managing, and maintaining an Information platform services installation.
<i>Information platform services Installation Guide for UNIX</i>	Installation procedures for SAP BusinessObjects Information platform services on a UNIX environment.
<i>Information platform services Installation Guide for Windows</i>	Installation procedures for SAP BusinessObjects Information platform services on a Windows environment.

## 1.1.3 Accessing documentation

You can access the complete documentation set for SAP Data Services in several places.

### 1.1.3.1 Accessing documentation on Windows

After you install SAP Data Services, you can access the documentation from the Start menu.

1. Choose **Start > Programs > SAP Data Services 4.2 > Data Services Documentation > All Guides**.
2. Click the appropriate shortcut for the document that you want to view.

### 1.1.3.2 Accessing documentation on UNIX

After you install SAP Data Services, you can access the documentation by going to the directory where the printable PDF files were installed.

1. Go to `<LINK_DIR>/doc/book/en/`.

2. Using Adobe Reader, open the PDF file of the document that you want to view.

### 1.1.3.3 Accessing documentation from the Web

You can access the complete documentation set for SAP Data Services from the SAP Business Users Support site.





To do this, go to <http://help.sap.com/bods>.

You can view the PDFs online or save them to your computer.

### 1.1.4 SAP information resources

A global network of SAP technology experts provides customer support, education, and consulting to ensure maximum information management benefit to your business.

Useful addresses at a glance:

Address	Content
Customer Support, Consulting, and Education services <a href="http://service.sap.com/">http://service.sap.com/</a> 	Information about SAP support programs, as well as links to technical articles, downloads, and online forums. Consulting services can provide you with information about how SAP can help maximize your information management investment. Education services can provide information about training options and modules. From traditional classroom learning to targeted e-learning seminars, SAP can offer a training package to suit your learning needs and preferred learning style.
Product documentation <a href="http://help.sap.com/bods/">http://help.sap.com/bods/</a>	SAP product documentation.
Supported Platforms (Product Availability Matrix) <a href="https://service.sap.com/PAM">https://service.sap.com/PAM</a> 	Get information about supported platforms for SAP Data Services.  Use the search function to search for Data Services. Click the link for the version of Data Services you are searching for.
SAP Data Services Community Network <a href="http://scn.sap.com/community/data-services">http://scn.sap.com/community/data-services</a> 	Get online and timely information about SAP Data Services, including forums, tips and tricks, additional downloads, samples, and much more. All content is to and from the community, so feel free to join in and contact us if you have a submission.
Blueprints <a href="http://scn.sap.com/docs/DOC-8820">http://scn.sap.com/docs/DOC-8820</a> 	Blueprints for you to download and modify to fit your needs. Each blueprint contains the necessary SAP Data Services project, jobs, data flows, file formats, sample data, template tables, and custom functions to run the data flows in your environment with only a few modifications.

Address	Content
SAPTerm <a href="https://portal.wdf.sap.corp/go/sapterm">https://portal.wdf.sap.corp/go/sapterm</a>	SAP's terminology database, the central repository for defining and standardizing the use of specialist terms.

## 1.2 Naming Conventions

In this documentation, the following naming conventions apply:

### Terminology

- “Data Services system” refers to “SAP Data Services”.
- “BI platform” refers to “SAP BusinessObjects BI platform”.

#### **i** Note

The BI platform components required by Data Services may also be provided by SAP BusinessObjects Information platform services (IPS).

- “CMC” refers to the Central Management Console provided by the BI or IPS platform.
- “CMS” refers to the Central Management Server provided by BI or IPS platform.

### Variables

Variables	Description
<b>&lt;INSTALL_DIR&gt;</b>	The installation directory for the SAP software. Default location: <ul style="list-style-type: none"> <li>• C:\Program Files (x86)\SAP BusinessObjects</li> </ul>
<b>&lt;BIP_INSTALL_DIR&gt;</b>	The root directory of the BI or IPS platform. Default location: <ul style="list-style-type: none"> <li>• <b>&lt;INSTALL_DIR&gt;</b>\SAP BusinessObjects Enterprise XI 4.0</li> </ul> <div> <b>i</b> Note  These paths are the same for both the SAP BusinessObjects BI platform and SAP BusinessObjects Information platform services. </div>
<b>&lt;LINK_DIR&gt;</b>	The root directory of the Data Services system.

Variables	Description
	<p>Default location:</p> <ul style="list-style-type: none"> <li>All platforms  <code>&lt;INSTALL_DIR&gt;/Data Services</code></li> </ul> <p>This system environment variable is created automatically during installation.</p>
<code>&lt;DS_COMMON_DIR&gt;</code>	<p>The common configuration directory for the Data Services system.</p> <p>Default location:</p> <ul style="list-style-type: none"> <li>Windows (Vista and newer)  <code>ALLUSERSPROFILE\SAP BusinessObjects\Data Services</code></li> <li>Windows (Older versions)  <code>ALLUSERSPROFILE\Application Data\SAP BusinessObjects\Data Services</code></li> </ul> <p>This system environment variable is created automatically during installation.</p>
<code>&lt;DS_USER_DIR&gt;</code>	<p>The user-specific configuration directory for the Data Services system.</p> <p>Default location:</p> <ul style="list-style-type: none"> <li>Windows (Vista and newer)  <code>USERPROFILE\AppData\Local\SAP BusinessObjects\Data Services</code></li> <li>Windows (Older versions)  <code>USERPROFILE\Local Settings\Application Data\SAP BusinessObjects\Data Services</code></li> </ul> <p>This user environment variable is created automatically during installation.</p> <div> <p><b>i Note</b></p> <p>This variable is used only for Data Services client applications on Windows, such as the Designer. <code>&lt;DS_USER_DIR&gt;</code> is not used on UNIX platforms.</p> </div>

## 2 Planning

SAP Data Services can be installed on Windows, UNIX, or Linux platforms, with a combination of supported web servers, web application servers, database servers, and web technologies.

You decide how the components that comprise Data Services will be distributed. A small development deployment might use the installation program's default options to install Data Services, SAP BusinessObjects Information platform services, and a web application server on a single host system. A larger scale deployment might install individual system components on dedicated host systems to host individual server functions over a network. For example: a single host dedicated to a web application server; a single host dedicated to the Data Services core system; and a single host dedicated to the SAP BusinessObjects Information platform services.

For more information on how to plan your installation, see the "Architecture" section of the *Administrator Guide*.

Before installing:

- Review your host systems to ensure that they meet the basic requirements.  
For a detailed list of supported environments and hardware requirements, consult the *Product Availability Matrix* available at <http://service.sap.com/PAM>. This information includes specific version and patch-level requirements for web application servers, web browsers, databases, and operating systems.
- When setting up a deployment comprised of two or more host systems networked together, ensure that the host systems in your deployment can communicate with each other across the network.
- Determine the location of the components to be installed. This includes the specific subnet, machines, database, security, or cluster systems that will be used.

### Process Flow

The following sections list the core software requirements, the choices available to you within the core requirements, and the installation methods that you can use.

1. Determine system requirements.
2. Set up account permissions.
3. Determine network permissions.
4. Choose a web application server.
5. Choose a database server.

### 2.1 System requirements

When you install SAP Data Services on a local drive, use the following guidelines:

- Before you run the installation program, ensure that the destination partition has enough room for the deployment to expand (when updates and new features are added in the future).
- If you want to install the deployment on the operating system partition, ensure that there is enough room for the deployment and the operating system.
- If you have previously installed any SAP products, the installation program will use the existing directory.

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For a complete list of supported operating systems and hardware requirements, consult the *Product Availability Matrix* available at <http://service.sap.com/PAM>.

## 2.2 Software dependencies

Before you install SAP Data Services, ensure that your host systems meet all software dependency requirements. For complete information about software environment requirements, see the *Platform Availability Matrix* available at <http://service.sap.com/PAM>.

### Information platform services installation

In order to install Information platform services, Data Services customers should use `InstallIPS.exe` (`InstallIPS` on Linux) to launch the installation and not the default installation program `setup.exe`. Using the `InstallIPS` executable will allow Data Services customers to install Information platform services with an embedded license key.

### Microsoft Access Database Engine

The 64-bit Designer and Job Server cannot coexist with Microsoft Office products earlier than Microsoft Office 2010.

- **Windows 64-bit server or client installation**

To use Microsoft Excel functionality in Data Services, manual steps are required if the installer is not able to install Microsoft Access Database Engine 2010 Redistributable on the 64-bit platform. If the Access Database Engine 2010 cannot be installed due to the presence of earlier versions of Microsoft Office, you will see the following warning message:

“A 32-bit Microsoft Office product is installed on this machine. Data Services requires the 64-bit Microsoft Access database engine to use the Excel data format as a reader or loader. Please uninstall the 32-bit Microsoft Office component.”

The warning message is issued because earlier versions (pre-2010) of Microsoft Office software are 32-bit and incompatible with the Access Database Engine 2010 on the Windows 64-bit platform. If you need to use the Microsoft Excel functionality in Data Services, perform one of the following two options after installation:

  - Option 1:
    1. Uninstall Microsoft Office.
    2. Install the Microsoft Access Database Engine 2010 redistributable from the Data Services installed location. By default, the installation program is located at `<LINK_DIR>\ext\microsoft\AccessDatabaseEngine_X64.exe`.
  - Option 2:

Upgrade Microsoft Office to Microsoft Office 2010 64-bit.

- [Windows 32-bit client installation](#)

On 32-bit Windows platforms, Microsoft Office 2007 can co-exist with Microsoft Access Database Engine 2010. If it does not already exist on the system, the installer always installs the 2010 engine. If Microsoft Office 2010 64-bit already exists on the system, but you install the Data Services 32-bit package, the configuration is not supported because it is not a valid Microsoft configuration.

## 2.3 Account permissions

To install SAP Data Services, a user must have the following permissions:

Category	Required permissions
Operating system	Local administrator privileges.  <div><b>Note</b> If you are installing Data Services on a Windows 7 host system that has User Account Control (UAC) enabled, you should run the installation program with the host system's built-in administrator account. If you use a normal account, a UAC prompt will appear.</div>
Network	Network connectivity through appropriate ports to all host systems in the deployment, access to shared file system directories for users of the deployment, and appropriate network authentication privileges.
Database	Permission for the SAP user account to create and drop tables, and read, write, and edit table rows.

In addition, it's recommended that you use the same user account for installing Data Services and your web application server.

### Additional notes

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.

## 2.4 Network permissions

When you install SAP Data Services across multiple host systems, use the following guidelines to ensure your network functions properly:

- Each host system must be able to communicate with the Central Management Server (CMS). The CMS coordinates the functioning of all the servers in the deployment.

- Each host system must be able to communicate with the host that runs the repository database.
- Each client, such as the Designer, must be able to communicate with the Job Server(s).
- Each host system must use a fixed hostname. Fully-qualified hostnames are supported.

#### **i** Note

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

#### **i** Note

If your servers are protected by a firewall, you may need to open the necessary ports to allow the client components to communicate with the servers.

## 2.4.1 Port assignments

On each host system, verify that all ports to be used by SAP Data Services components are available and not in use by other programs.

For a development system, you can install many components on the same host. Installing on a single host simplifies many connections between components (the host name is always the same), but you must still define connections based on the TCP/IP protocol.

### 2.4.1.1 Port requirements for Data Services server components

This section lists the communication ports used by Data Services server components. If you deploy Data Services with firewalls, you can use this information to open the minimum number of ports in those firewalls.

Component	Description	Default port
Job Server	Communication port Receives commands from Designers, Access Servers, and schedulers.	3500
	Request port Communicates with the Designer for the notification server feature.	Dynamic
	Adapter communication port (optional) Receives commands and sends data to adapters. Required only if you are using adapters.	4000

Component	Description	Default port
	Debugger port (optional) Supports communication for the Designer interactive debugging feature.	5001
Access Server	Communication port Receives and sends messages from clients and services.	4001
EIM Adaptive Processing Server	Metadata Browsing Service listener port Communicates with the Data Services backend engine.	4010
	Metadata Browsing Service JMX Connector communication port	4011
	View Data Service listener port Communicates with the Data Services backend engine.	4012
	View Data Service JMX Connector communication port	4013

#### **i** Note

Use the Designer to configure fixed debugger and Job Server request ports.

## Related Information

[Designer Guide: Designer User Interface, General and environment options, Designer – Environment](#)  
[Designer Guide: Design and Debug, Using the interactive debugger, Before starting the interactive debugger, Changing the interactive debugger port](#)  
[Port requirements for Data Services client applications](#) [page 15]

### 2.4.1.2 Port requirements for Data Services client applications

This section lists the communication ports used by Data Services client applications and web applications. If you deploy Data Services with firewalls, you can use this information to open the minimum number of ports in those firewalls.

## Designer port requirements

Associated server	Port requirements	Default port
BI platform Central Management Server (CMS)	Name server port	6400
	Request port	Dynamic
Data Services Job Server	Communication port	3500
	Request port	Dynamic
	Debugger port (optional)	5001
Repository database server	Connection port	Varies

## Workbench port requirements

Associated server	Port requirements	Default port
BI platform Central Management Server (CMS)	Name server port	6400
	Request port	Dynamic

## Management Console port requirements

Associated server	Port requirements	Default port
Web application server	Communication port	8080

### **i** Note

Use the Central Management Console (CMC) to configure a fixed CMS request port.

For more information, see “Server Administration, Configuring server network settings, Configuring port numbers” the *BI platform Administrator Guide* or the *Information platform services Administrator Guide*.

### **i** Note

Use the Designer to configure fixed debugger and Job Server request ports.

## Related Information

[Designer Guide: Designer User Interface, General and environment options, Designer – Environment](#)  
[Designer Guide: Design and Debug, Using the interactive debugger, Before starting the interactive debugger, Changing the interactive debugger port](#)

## 2.5 Central Management Server (CMS)

Before you can install SAP Data Services, you must have a working SAP BusinessObjects BI platform Central Management Server (CMS). The installation program creates Data Services InfoObjects in the CMS.

Data Services relies on the CMS for:

- Centralized user and group management
- Flexible authentication methods
- Password enforcement policies
- Administrative housekeeping services
- RFC Server hosting
- Services for integrating other SAP software

### **i** Note

If you do not have a SAP BusinessObjects BI platform installation, the basic CMS functions required by Data Services can be provided by SAP BusinessObjects Information platform services.

If you choose to use Information platform services, use `InstallIPS.exe` instead of `setup.exe` to launch the Information platform services installation program.

For information about installing SAP BusinessObjects Information platform services, see the *SAP BusinessObjects Information Platform Services Installation Guide*

### Other related installation notes

- During the Data Services installation, you are required to provide CMS login information. If you do not have this information available, you will not be able to proceed with the installation.
- If you are using a distributed environment, the installation will be blocked if both of the following are true:
  - The Data Services Administrator service (part of EIM APS) doesn't exist in the landscape.
  - The Data Services Administrator service (part of EIM APS) cannot be installed because there is no local SIA node pointing to the master CMS.

## 2.6 Web application servers

You can integrate SAP Data Services with a Java web application server. Tomcat is the default Java web application server provided by the SAP BusinessObjects BI platform and Information platform services. The web application server must be operational and accessible when you run the installation program.

---

For a complete list of supported web application servers, consult the *Product Availability Matrix* available at <http://service.sap.com/PAM>.

**i Note**

The “Management Console” option installs only web applications to a supported Java web application server. This is useful for deploying web applications to nodes in a web application server cluster.

## 2.7 Database servers

You need a database to host the SAP Data Services repository. If you want to configure a repository during installation, the database server must be operational and accessible when you run the installation program.

SAP Sybase SQL Anywhere is the default database server provided by the SAP BusinessObjects BI platform and Information platform services.

The deployment also supports the following database servers:

- IBM DB2
- Microsoft SQL Server
- MySQL
- Oracle
- SAP HANA
- SAP Sybase SQL Anywhere
- SAP Sybase Adaptive Server Enterprise

**i Note**

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

For a detailed list of supported database versions, revision levels, and requirements, consult the *Product Availability Matrix* available at <http://service.sap.com/PAM>.

## 3 Preparation

This section details how to prepare for the installation of SAP Data Services.

### Process Flow

1. Obtain the installation media.
2. Ensure that sufficient disk space is available to install, allowing both the operating system and the software to grow over time as patches or new components become available.
3. Gather the installation media or download the latest release and any patches or service packs from the support portal at <http://service.sap.com/swdc>.
4. Decide which options you will change during the installation process. In most cases, you can accept the default values. More advanced installations require that you plan the installation process. The installer will prompt for the following information:
  - License information (the name of the user and company associated with your software).
  - Administrator-level connection information for the Central Management Server (CMS).
  - Repository database connection information, including type, connection, and authentication details.

### 3.1 Preparing the repository database

Before you can create a repository for SAP Data Services, you must complete the following tasks:

- Create a database, tablespace or schema (if applicable), and account that will be used to store repository information. Record the database, tablespace, and account information so you can enter the details when prompted by the Data Services installation program.
- 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 you use a database server on a network, install the appropriate database client drivers and verify that they work before you install Data Services. To establish which drivers are required for your database, contact your database administrator.

The following database client drivers are supported:

Database	Driver
TERADATA_12	Teradata
TERADATA_13	
TERADATA_14	
MYSQL_5_0	MySQL ODBC 3.51 Driver
MYSQL_5_X	MySQL ODBC 5.1 Driver

Database	Driver
MYSQL_5_5	MySQL ODBC 5.2 Unicode Driver
SYBASE_IQ_15_X	Sybase IQ SYBASE_IQ_16_X = Sybase IQ
DB2_UDB_9_X DB2_UDB_10_X	IBM DB2 ODBC DRIVER
INFORMIX_IDS_11_X	IBM INFORMIX ODBC DRIVER (64-bit)
NETEZZA_NPS_4_X NETEZZA_NPS_5_X NETEZZA_NPS_6_X NETEZZA_NPS_7_X	NetezzaSQL
HANA_1_X	HDBODBC
SQLANYWHERE_12_X	SQL Anywhere 12

:

During the installation process, you will be asked to supply a Central Management Server (CMS) registration name for the repository, as well as the connection and authentication credentials so that the installation program can initialize the repository database.


#### Note

The CMS registration name determines how the repository will appear in the Central Management Console (CMC), and must be unique.

The table below shows which information is required for third-party databases:

Database	Information required
Microsoft SQL Server	<ul style="list-style-type: none"> <li>• CMS registration name</li> <li>• Database name</li> <li>• Server name</li> <li>• Port number (default is 1433)</li> <li>• Login credentials used to access the database</li> </ul>
MySQL	<ul style="list-style-type: none"> <li>• CMS registration name</li> <li>• Database name</li> <li>• Database server version</li> <li>• Server name</li> <li>• Port number (default is 3306)</li> <li>• Login credentials used to access the database</li> </ul>

Database	Information required
	<p><b>i Note</b></p> <p>If you want to use DSN connections, defer repository creation to after installation and follow the steps in <a href="#">DSN-less and TNS-less connections</a> [page 25].</p>
SAP HANA	<ul style="list-style-type: none"> <li>• CMS registration name</li> <li>• Server name</li> <li>• Database server version</li> <li>• Port number (default is 30015)</li> <li>• Login credentials used to access the database</li> </ul> <p><b>i Note</b></p> <p>If you want to use DSN connections, defer repository creation to after installation and follow the steps in <a href="#">DSN-less and TNS-less connections</a> [page 25].</p>
SAP Sybase ASE	<ul style="list-style-type: none"> <li>• CMS registration name</li> <li>• Database name</li> <li>• Server name</li> <li>• Sybase connection string</li> <li>• Port number</li> <li>• Login credentials used to access the database</li> </ul>
DB2	<ul style="list-style-type: none"> <li>• CMS registration name</li> <li>• Database name</li> <li>• Server name: DB2 database alias</li> <li>• Database server version</li> <li>• Port number</li> <li>• Login credentials used to access the database</li> </ul> <p><b>i Note</b></p> <p>If you want to use DSN connections, defer repository creation to after installation and follow the steps in <a href="#">DSN-less and TNS-less connections</a> [page 25].</p>
Oracle	<ul style="list-style-type: none"> <li>• CMS registration name</li> <li>• Server: TNSNAMES connect identifier</li> </ul> <p><b>i Note</b></p> <p>If you want to use TNS connections, defer repository creation to after installation and follow the steps in <a href="#">DSN-less and TNS-less connections</a> [page 25].</p> <ul style="list-style-type: none"> <li>• Database server version</li> <li>• Port number</li> <li>• SID</li> </ul>

Database	Information required
	<ul style="list-style-type: none"> <li>• Login credentials used to access the database</li> </ul>
SAP Sybase SQL Anywhere	<ul style="list-style-type: none"> <li>• CMS registration name</li> <li>• Database name</li> <li>• Database server version</li> <li>• Server name</li> <li>• Port number</li> <li>• Login credentials used to access the database</li> </ul>
Bundled database	<p>You can also use the default database that is bundled with the BI platform as the Data Services repository host.</p> <p>For more information, see “Configuring the bundled database”.</p> <div>  <b>Caution</b> <p>If you use the bundled database as your Data Services repository host, you must use the database client tools to manage backup and restore of the database. Be sure to back up your repository before uninstalling the BI platform.</p> </div>

## 3.1.1 Configuring the bundled database

To use the bundled database for the Data Services repository, create a database in Sybase SQL Anywhere.

Follow the steps below to configure the SAP Sybase SQL Anywhere database, which is bundled with the SAP BusinessObjects BI platform or Information platform services (IPS), to host your SAP Data Services repository.

1. When you install SAP BusinessObjects BI platform, make sure that you select [Configure and install a Sybase SQL Anywhere database](#). See the *Business Intelligence Platform Installation Guide* for details.
2. Make a note of the password for the SQL Anywhere “dba” user account that you entered during the installation of SAP BusinessObjects BI platform or Information platform services (IPS).
3. Download and install SQL Anywhere Client 12 (Sybase Central).
  - Select the language.
  - Accept the license agreement.
  - Select [Administration Tools \(64-bit\)](#) in the [Custom Setup](#) dialog box.
  - Click [Install](#).
4. Launch Sybase Central (64-bit) client to set up the Data Services Repository database named BI4\_CMS, which uses the password you set up in step 2.
5. In Sybase Central, select ► [Connections](#) ► [Connect with SQL Anywhere 12](#) ►.
6. Make the following entries in the [Connect](#) dialog box and then click [Connect](#).

Option	Description
<a href="#">Authentication</a>	<a href="#">Database</a>

Option	Description
User ID	dba
Password	Password for the dba user that you noted in step 2
Action	Connect to a running database on this computer
Server name	BI4
Database name	BI4_CMS

7. In Sybase Central, choose *Sybase Central/SQL Anywhere 12/BI4* from the *Context* drop down list. The Data Services repository database is created on the existing BI4 network server.
8. To create the Data Services repository, Open Sybase Central and select **Tools** > *SQL Anywhere 12* > *Create Database*. Click *Next*.
9. In the *Select a Location* dialog box, select *Create a database on the following server computer*, then select **BI4** from the table located in the lower right side of the dialog box.
10. In the *Specify a Database File* dialog box, enter the following path for *Save the main database file to the following file*: **<BI4\_install>\SAP BusinessObjects\sqlanywhere\database\DS\_REPO.db**. Click *Finish*.  
The DS\_REPO is created with the password that you entered for the user "dba" in Step 2.
11. In Sybase Central select *Sybase Central/SQL Anywhere 12/BI4* from the *Context* drop down list.
12. Open the *Services* tab, right click on *SQLAnywhereFroBI*, and select *Properties* from the drop down menu.
13. Open the *Configuration* tab in the *Service Properties* dialog box and append the path to the DS\_REPO.db file in the *Parameters* field. Click *Apply*.  
For example, when you append the path to the DS\_REPO.db file, **<BI4\_install>\SAP BusinessObjects\sqlanywhere\database\DS\_REPO.db**, the path entry may look like this:  

```
-n BI4 -x tcpip(PORT=2638;DoBroadcast=NO;BroadcastListener=NO) "C:\Program Files (x86)\SAP BusinessObjects\sqlanywhere\database\BI4_CMS.db" "C:\Program Files (x86)\SAP BusinessObjects\sqlanywhere\database\BI4_Audit.db" "C:\Program Files (x86)\SAP BusinessObjects\sqlanywhere\database\DS_REPO.db"
```

DS\_REPO is now available to use as a repository database.
14. To connect to the DS\_REPO database, use the following connection parameters:
  - o Database server name = **<hostname>**
  - o Database name = **DS\_REPO**
  - o Port = **2638** (this is the SQL Anywhere default port number)
  - o User name = **dba**
  - o Password = the password you set up for the user "dba".

## 3.1.2 Extra requirements for DB2

If you are using DB2 for the repository database:

- Install the DB2 Application Enabler software and use DB2 Control Center and DB2 Script Center to verify the connection between the Designer host system and the repository host system.
- Ensure that the software has a temporary table space with a page size of 32K.

### 3.1.3 Extra requirements for Microsoft SQL Server

If you are using Microsoft SQL Server for the repository database, choose between Windows authentication and Microsoft SQL Server authentication:

- Windows authentication  
Microsoft SQL Server validates the login account name and password using information from the Windows operating system.
- Microsoft SQL Server authentication  
Microsoft SQL Server authenticates the existing Microsoft SQL Server login account name and password.

### 3.1.4 Extra requirements for MySQL and Oracle, and SAP HANA

If you are using MySQL, Oracle, or SAP HANA for the repository database:

- Download the JDBC driver for the database.  
The Data Services installation program will ask you to provide its location during the installation process.

#### **i** Note

If you do not configure the repository during installation, you need to manually copy the JDBC driver to the correct location. For more information, see [Configuring JDBC drivers for SAP HANA, Oracle, and MySQL](#) [page 52].

### 3.1.5 Extra requirements for Oracle

If you are using Oracle for the repository database:

- Grant the database account the connect, and resource roles, and grant the create any sequence privilege. For Oracle 10G/R2, also grant the create view privilege.
- Install the Oracle client software and use SQL\*Plus to verify the connection between the Designer machine and the repository.
- Download the JDBC driver for the database.  
The Data Services installation program will ask you to provide its location during the installation process.

#### **i** Note

If you do not configure the repository during installation, you need to manually copy the JDBC driver to the correct location. For more information, see [Configuring JDBC drivers for SAP HANA, Oracle, and MySQL](#) [page 52].

#### **i** Note

To store multi-byte characters in a repository table when the repository is on an Oracle database, you must change the Oracle database character set to a code page that supports the multi-byte language that you plan

to use, or you risk corrupting the metadata. For example, to store Japanese characters, change the Oracle database character set to either `SHIFT_JIS` or `UTF8`.

### 3.1.6 Extra requirements for Sybase

If you are using Sybase for the repository database:

- The Sybase ASE database properties option, *ddl in tran* must be selected before installing Data Services to successfully create/validate the repository.
- If you are using both Sybase and Microsoft SQL Server on a Windows host system, ensure that the Sybase path precedes the Microsoft SQL Server path in the environment variables `%PATH%` statement.
- Sybase ASE database page size should be 4K or more.

### 3.1.7 Extra requirements for SAP HANA

If you are using SAP HANA for the repository database:

- (Optional) Download the JDBC driver for the database.  
While Data Services includes a bundled JDBC driver for SAP HANA, you can also choose to use a newer driver version, if available.  
The Data Services installation program will ask you to provide its location during the installation process.

#### Note

If you do not configure the repository during installation, you need to manually copy the JDBC driver to the correct location. For more information, see [Configuring JDBC drivers for SAP HANA, Oracle, and MySQL](#) [page 52].

## 3.2 DSN-less and TNS-less connections

Data Services provides server name connections (also known as DSN-less and TNS-less connections) to databases that you use as a Data Services repository, source or target. Server name connections eliminate the need to configure the same DSN or TNS entries on every machine in a distributed environment.

For the Data Services repository, the following database types are supported:

- For Oracle databases, you specify the server name, database name, and port instead of the TNS name.
- For DB2, MySQL, and SAP HANA databases, you specify the server name, database name, and port instead of the DSN name.

#### Note

When you install Data Services, the repository defaults to a DSN-less or TNS-less connection. If you choose not to use a server name connection:

- Defer repository creation to after installation.
- Invoke the Repository Manager to subsequently create the repository.
  - On Windows, select the option *Use TNS name* or *Use data source name (DSN)*.
  - On UNIX, specify the `s` option to not use a server name connection.
- Log in to the Central Management Console (CMC) to register the repository and select the repository connection type on the *Data Services Repository Properties* screen:
  - For an Oracle database, select *Yes* in the drop-down list for *Use TNS name*.
  - For a DB2, MySQL, or SAP HANA database, select *Yes* in the drop-down list for *Use data source name (DSN)*.

### Note

This Data Services repository connection type setting on the CMC determines the connection type for logging into the Designer, running jobs, scheduling jobs, and so on.

For Data Services sources and targets, the following database types are supported for DSN-less and TNS-less connections:

- DB2 UDB
- Informix
- MySQL
- Netezza
- Oracle
- SAP HANA
- SAP Sybase IQ
- Teradata

### Note

For the most current list of supported databases for server name connections, see the *Release Notes*.

## Related Information

[Administrator Guide: Using the Repository Manager](#)

[Administrator Guide: To register a repository in the CMC](#)

[Administrator Guide: To configure Job Servers](#)

[Administrator Guide: To configure Job Servers on UNIX](#)

[Administrator Guide: Using the Windows ODBC Driver Selector for DSN-less connections](#)

[Administrator Guide: Configuring ODBC data sources on UNIX using DSN-less connections](#)

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## 3.3 Creating a Windows cluster

If you want to take advantage of fail-over support for SAP Data Services in a Windows Clustering Environment, you must create a Windows cluster before you install the software.

If you choose this option, in the event of a hardware failure or Windows software failure, the Windows Cluster Manager will attempt to restart your services.

To use Data Services in a Windows Clustering Environment:

1. Create a Windows cluster.  
For details, see your Microsoft documentation.
2. Install the software on a shared drive from the first cluster host system.
3. Configure the Windows cluster.

### Related Information

[Configuring a Windows cluster](#) [page 51]

## 3.4 Disabling SSL on the Central Management Server (CMS)

The Data Services installation program does not support the SSL protocol during the installation process.

Before installing Data Services, check if your Central Management Server (CMS) has SSL enabled. If so, disable the SSL protocol on your CMS while you install Data Services.

For more information about disabling the SSL protocol, see the appropriate section in your CMS documentation:

- “Securing Information platform services, Configuring servers for SSL” in the *SAP BusinessObjects Information platform services Administrator Guide*
- “Securing the BI platform, Configuring servers for SSL” in the *SAP BusinessObjects BI platform Administrator Guide*

## 4 Installation

You can run the installation program several ways:

- **Interactive installation**  
An interactive wizard prompts for all information related to the installation. Use this option to select individual options from a series of screens. This is the default installation method. You have the option of running the installation using default configuration settings or without configuration.
- **Silent installation**  
Installation options are given on the command-line, which override the installation program's default values. The command-line can be used to give some or all installation options. When an installation option is not given on the command-line, the installation program uses a default value.  
Installation options can be given in a response file rather than directly on the command-line. This type of silent installation uses the `-r` command-line parameter to read installation options from the response file. Use this option if you want to install multiple machines with the same configuration. Installation options stored in the response file can be overridden by giving them on the command-line.  
When the `-q` (quiet mode) switch is used, the installation program does not prompt for any user input during the installation.

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

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

### 4.1 To run an interactive installation with default configuration

The Install with default configuration option allows you to run the installation using defaults settings for most options.

To install the Data Services system, you must use an account with administrative privileges.

When the installation program starts, a series of prerequisite checks are performed. The results of these checks are displayed for your information. If your host system does not meet the minimum requirements, the installation program will not install SAP Data Services. Microsoft C++ redistributable components will be installed automatically if they are not found.

1. Start the installation program.
  - a) Log in at the console or use Microsoft Remote Desktop connection with a minimum screen resolution of 1024 x 768.
  - b) Locate the installation program.  
If you are installing from physical media, look for `setup.exe` in the top-level folder. If you are installing from a compressed download, extract it and locate `setup.exe`.

#### **i** Note

If you are running the installation program from a network location, use a mapped drive and not a UNC path.

c) Run `setup.exe` by double-clicking it in Windows Explorer or calling it from the command-line.

The launch overview information screen appears.

2. Click **Yes** to view the pre-installation overview or click **No** to continue with the installation.

The prerequisite check screen appears.

3. The installation program checks for required components. Review the results and decide whether to continue the installation, or abort and correct any unmet requirements.

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. The installation program will provide information on how to correct the condition.

During a silent installation, the installation program does not display the results of dependency prerequisites. If a critical component or supported version is not found, the installation program writes an error to the installation log file and aborts. If an optional component or supported version is not found, the missing or unsupported component is noted in the installation log file.

The welcome screen appears.

4. Review the recommendations made by the installation program welcome screen.

The license agreement screen appears.

5. Review and accept the license agreement.

The user information screen appears.

6. Enter the product keycode you purchased. Store the keycode and registration information in a safe place in case you need to reinstall the software.

The destination location screen appears.

7. Specify the location where you want to install the software.

#### Note

If you have other SAP products already installed on the host system, the destination folder cannot be changed.


The language pack selection screen appears.


8. To install support for a language, select it 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 when a problem is detected with an individual language.

The Central Management Server (CMS) connection screen appears.

9. To configure the Data Services InfoObject and Adaptive Processing Server (APS) services, enter administrator-level connection information for your Central Management Server (CMS):

Option	Description
<i>System</i>	The name of the host machine where the Central Management Server (CMS) is installed.
<i>Enables SSL</i>	Specifies whether the CMS uses SSL. <div> <b>Restriction</b> SSL is not supported during Data Services installation.</div>
<i>User</i>	User name of the administrative CMS user.  The default is Administrator.

Option	Description
<i>Password</i>	<p>The password for the CMS user.</p> <p>The password for the default Administrator account was defined during the BI platform installation process.</p>
<i>Authentication mode</i>	<p>The authentication mode used by the CMS.</p> <div>  <b>Restriction</b>  Data Services supports only the Enterprise authentication method during installation. </div>

### Caution

To continue the installation of Data Services, the installation program must restart the Server Intelligence Agent (SIA). Ensure that the SIA is not in use and that the Input File Repository server is enabled and can start automatically before proceeding.

The installation type screen appears.


10. Select *Install with default configuration*.

The feature selection screen appears.

11. Select the Data Services components that you want to install.

### Note

Depending on previous input to the installation program, some options may not be available (for example, if you are installing on a non-server operating system).

Component	Description
Job Server	<p>The Job Server starts engine processes to perform data extraction, transformation, and movement.</p> <div>  <b>Note</b>  Job Servers can also be configured after installation. </div>
Designer and Workbench	<p>The Designer is a graphical development tool that enables developers to define data management applications that consist of data mappings, transformations, and control logic.</p> <p>The Workbench is a graphical development tool that enables developers to migrate data and database schema information between different database systems.</p>
Management Console	<p>The Management Console includes web applications that provide browser-based administration, analysis, and reporting capabilities for Data Services.</p>
APS Services	<p>The APS Services are deployed on the BI (or IPS) platform and provide Data Services with basic administration, metadata browsing, view data, data quality, and RFC</p>

Component	Description
	server capabilities. These services are used by Data Services and other applications such as SAP Information Steward.
Message Client	The Message Client API provides C++ and Java APIs that allow you to connect to Data Services real-time services with external applications.
Text Data Processing Languages	<p>Supports processing of unstructured text in multiple languages.</p> <p><b>i Note</b></p> <p>Text Data Processing support for English is installed by default and cannot be uninstalled. Select additional languages if you want to process unstructured text in other languages.</p>
Cleansing Package	<p>The SAP-supplied person and firm cleansing package is used by SAP Information Steward and the Data Cleanse transform in Data Services.</p> <p><b>i Note</b></p> <p>The PERSON_FIRM.zip file, located within the cleansing package .zip file, must already be copied to the correct location. If the cleansing package data is not found by the installation program in the expected location, the option is disabled.</p>
DataDirect ODBC Drivers	The DataDirect drivers allow Data Services to connect to ODBC data sources on UNIX and Windows platforms.
Documentation	Installs the complete Data Services documentation set. Documentation is also available on the SAP Business User Support site at <a href="http://help.sap.com">http://help.sap.com</a> .

### ➔ Tip

To verify whether you have sufficient available disk space for the selected components, click [Disk Cost](#).

The specify local repository database type screen appears.

12. Select the repository database type.  
The repository database connection screen appears.
13. To create a new local repository, do the following.

The installation program will perform the following tasks:

- Create the repository tables in the repository database.
- Associate the repository with a Job Server, if you create one in the next step.
- Register the repository in the BI platform Central Management Console (CMC).

By performing these tasks, an administrator can log in to the Designer and execute jobs immediately following installation.

### Note

Additional repositories can be configured later. If you want to configure repositories after installation, you can skip the repository configuration screen.

- a) Enter the registration name for the CMS.

### Tip

The repository registration name is the logical name for the repository that will appear in the Central Management Console (CMC) and the client login screens where the repository is selected.

### Note

You can also use the database server bundled with the BI platform to host the Data Services repository. For more information about using the bundled database, see [Configuring the bundled database](#) [page 22].

- b) Select the database type.
- c) Select the database server version.
- d) Enter the database server name.
- e) Enter the database port.
- f) Enter the database name.
- g) Enter the user name
- h) Enter the password.
- i) Click [Next](#) to create the new repository.

### Caution

You cannot upgrade an existing repository during the installation process. If you specify an existing repository, the installation program will ask if you want to overwrite the repository. If you choose to overwrite the repository, all existing repository contents will be lost.

If you want to upgrade an existing repository, you can use the Repository Manager after installing Data Services.

The login information screen appears.

14. Specify the user account that will be used to run the Data Services system services.

### Note

You can also choose to use the system account. However, it is recommended that you specify a regular user account because the system account will not have access to certain resources such as shared folders on other systems.

The start installation confirmation screen appears.

15. Click [Next](#) to begin the installation process.

During the installation process, the installation program saves your installation selections in a cache, transfers files, and performs additional configuration actions.

The feature summary screen appears.

16. Review the list of features installed and not installed and click [Next](#).  
In the event that there was a problem with the installation (for example, the installation was unable to configure a repository or a Job Server), the Post Installation Steps screen appears and provides information about what to do next.
17. Click [Finish](#) to exit the installation.  
The reboot message screen appears.
18. To complete the installation, you must reboot your computer. Click [Yes](#) to restart now or click [No](#) to restart at a later time.

## 4.2 To run an interactive installation without configuration

The Install without configuration option allows you to configure the the features and options after the installation is complete. After installation, you must configure the Data Services repository (repository creation and registration on the CMS) and Job Server.

To install the Data Services system, you must use an account with administrative privileges.

When the installation program starts, a series of prerequisite checks are performed. The results of these checks are displayed for your information. If your host system does not meet the minimum requirements, the installation program will not install SAP Data Services. Microsoft C++ redistributable components will be installed automatically if they are not found.

1. Start the installation program.
  - a) Log in at the console or use Microsoft Remote Desktop connection with a minimum screen resolution of 1024 x 768.
  - b) Locate the installation program.

If you are installing from physical media, look for `setup.exe` in the top-level folder. If you are installing from a compressed download, extract it and locate `setup.exe`.

### Note

If you are running the installation program from a network location, use a mapped drive and not a UNC path.

- c) Run `setup.exe` by double-clicking it in Windows Explorer or calling it from the command-line.  
The launch overview information screen appears.
2. Click [Yes](#) to view the pre-installation overview or click [No](#) to continue with the installation.  
The prerequisite check screen appears.
3. The installation program checks for required components. Review the results and decide whether to continue the installation, or abort and correct any unmet requirements.

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. The installation program will provide information on how to correct the condition.

During a silent installation, the installation program does not display the results of dependency prerequisites. If a critical component or supported version is not found, the installation program writes an error to the installation log file and aborts. If an optional component or supported version is not found, the missing or unsupported component is noted in the installation log file.

The welcome screen appears.



4. Review the recommendations made by the installation program welcome screen.  
The license agreement screen appears.
5. Review and accept the license agreement.  
The configure product registration screen appears.
6. Enter the product keycode you purchased. Store the keycode and registration information in a safe place in case you need to reinstall the software.  
The destination location screen appears.
7. Specify the location where you want to install the software.

#### Note

If you have other SAP products already installed on the host system, the destination folder cannot be changed.

The language pack selection screen appears.

8. To install support for a language, select it 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 when a problem is detected with an individual language.  
The Central Management Server (CMS) connection screen appears.
9. To configure the Data Services InfoObject and Adaptive Processing Server (APS) services, enter administrator-level connection information for your Central Management Server (CMS):

Option	Description
<i>System</i>	The name of the host machine where the Central Management Server (CMS) is installed.
<i>Enables SSL</i>	Specifies whether the CMS uses SSL.   <b>Restriction</b> SSL is not supported during Data Services installation.
<i>User</i>	User name of the administrative CMS user.  The default is Administrator.
<i>Password</i>	The password for the CMS user.  The password for the default Administrator account was defined during the BI platform installation process.
<i>Authentication mode</i>	The authentication mode used by the CMS.   <b>Restriction</b> Data Services supports only the Enterprise authentication method during installation.

#### Caution

To continue the installation of Data Services, the installation program must restart the Server Intelligence Agent (SIA). Ensure that the SIA is not in use and that the Input File Repository server is enabled and can start automatically before proceeding.

The installation type screen appears.

10. Select Install without configuration.

The feature selection screen appears.

11. Select the Data Services components that you want to install.

**i Note**

Depending on previous input to the installation program, some options may not be available (for example, if you are installing on a non-server operating system).

Component	Description
Job Server	<p>The Job Server starts engine processes to perform data extraction, transformation, and movement.</p> <p><b>i Note</b></p> <p>Job Servers can also be configured after installation.</p>
Designer and Workbench	<p>The Designer is a graphical development tool that enables developers to define data management applications that consist of data mappings, transformations, and control logic.</p> <p>The Workbench is a graphical development tool that enables developers to migrate data and database schema information between different database systems.</p>
Management Console	<p>The Management Console includes web applications that provide browser-based administration, analysis, and reporting capabilities for Data Services.</p>
APS Services	<p>The APS Services are deployed on the BI (or IPS) platform and provide Data Services with basic administration, metadata browsing, view data, data quality, and RFC server capabilities. These services are used by Data Services and other applications such as SAP Information Steward.</p>
Message Client	<p>The Message Client API provides C++ and Java APIs that allow you to connect to Data Services real-time services with external applications.</p>
Text Data Processing Languages	<p>Supports processing of unstructured text in multiple languages.</p> <p><b>i Note</b></p> <p>Text Data Processing support for English is installed by default and cannot be uninstalled. Select additional languages if you want to process unstructured text in other languages.</p>
Cleansing Package	<p>The SAP-supplied person and firm cleansing package is used by SAP Information Steward and the Data Cleanse transform in Data Services.</p>

Component	Description
	<p><b>i Note</b></p> <p>The PERSON_FIRM.zip file, located within the cleansing package .zip file, must already be copied to the correct location. If the cleansing package data is not found by the installation program in the expected location, the option is disabled.</p>
DataDirect ODBC Drivers	The DataDirect drivers allow Data Services to connect to ODBC data sources on UNIX and Windows platforms.
Documentation	Installs the complete Data Services documentation set. Documentation is also available on the SAP Business User Support site at <a href="http://help.sap.com">http://help.sap.com</a> .

### ➔ Tip

To verify whether you have sufficient available disk space for the selected components, click [Disk Cost](#).

The merge existing configuration screen appears.

12. To reuse configurations from a previous installation, select [Reuse an existing configuration](#) and navigate to the location of the DSConfig.txt from the previous installation. To skip configuration, select [Skip configuration](#).

### i Note

If you are reusing configurations from a previous installation of Data Services 14.x or higher, DSConfig.key must also be in the same folder. Previous versions do not require DSConfig.key.

The login information screen appears.

13. Specify the user account that will be used to run the Data Services system services.

### i Note

You can also choose to use the system account. However, it is recommended that you specify a regular user account because the system account will not have access to certain resources such as shared folders on other systems.

The start installation confirmation screen appears.

14. Click [Next](#) to begin the installation process.

During the installation process, the installation program saves your installation selections in a cache, transfers files, and performs additional configuration actions.

The feature summary screen appears.

15. Review the list of features installed and not installed and click [Next](#).

In the event that there was a problem with the installation (for example, the installation was unable to configure a repository or a Job Server), the Post Installation Steps screen appears and provides information about what to do next.

16. Click [Finish](#) to exit the installation.

The reboot message screen appears.

- 
17. To complete the installation, you must reboot your computer. Click [Yes](#) to restart now or click [No](#) to restart at a later time.

## 4.3 While the installation program runs

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

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

## 4.4 Post-installation steps

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.

During installation, you have the option to create a single repository that will be registered in the CMC, a single Job Server, and a single Access Server. For more complex configurations, or if you need to make changes, you need to perform additional configuration steps such as creating users and groups, registering repositories in the CMC, and configuring Job and Access Servers.

If you are installing to a Windows Clustering Environment, you also need to configure the Windows cluster.

For more information see the “Post-Installation” section and the *Administrator Guide*.

### Related Information

[Post-Installation](#) [page 51]

[WDeploy](#) [page 89]

[Configuring users and groups](#) [page 53]

[Configuring repositories](#) [page 52]

[Configuring Job and Access Servers](#) [page 53]

### 4.4.1 Reboot suppression

If a file is locked during the installation, you may be prompted to restart the host system after the installation. You can choose to reboot immediately, or later. However, if you choose to suppress the reboot, the Data Services system may be in an unsupported state until the host system is rebooted. The installation log will record whether the host system is rebooted at the end of the installation process.

---

## 4.4.2 Re-enabling SSL on the Central Management Server (CMS)

If you use the SSL protocol on your Central Management Server (CMS), and disabled it prior to installing Data Services, re-enable it, if needed.

For more information about enabling the SSL protocol, see the appropriate section in your CMS documentation:

- “Securing Information platform services, Configuring servers for SSL” in the *SAP BusinessObjects Information platform services Administrator Guide*
- “Securing the BI platform, Configuring servers for SSL” in the *SAP BusinessObjects BI platform Administrator Guide*

## 4.5 To run a silent installation

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 installation program from the command-line as a parameter. For example, the installation option `DSConfigJSPort=3501` can be given on the command-line as a parameter when running the installation program to set the Job Server port number to 3501, instead of the default value of 3500.

In the following example of giving the `DSConfigJSPort` parameter on the command-line, ellipses (`[...]`) indicate where other installation options would normally be present:

```
setup.exe [...] DSConfigJSPort=3501 [...]
```

### 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 `DSConfigJSPort=3501` can be given on a line in the response file to set the Job Server port number to 3501, instead of the default value of 3500.

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

```
[...]
DSConfigJSPort=3501
[...]
```

### **i** Note

The installation program returns the cursor to the command-line prompt when it starts. To run the installation program from a script, or force the installation program to wait until it has completed 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>]
```

## Related Information

[Installation option parameters](#) [page 42]

[Response file example](#) [page 47]

## 4.5.1 Command-line switch parameters

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

Switch parameter	Description	Example
-w <FILENAME>	Writes a response file to <FILE-NAME>, containing the options selected from the installation wizard.	setup.exe -w "C:\response.ini"
-r <FILENAME>	Reads installation options from a response file named <FILE-NAME>.	setup.exe -r "C:\response.ini"
-q	Installs with no console output or prompting. If a problem is encountered, the installation program will write a message to the installation log file and exit.	setup.exe -q -r "C:\response.ini"

## 4.5.1.1 To use a response file

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

For example, the following command reads installation options from the response file `C:\response.ini`:

```
setup.exe -r C:\response.ini
```

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

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

`<INSTALL_DIR>\InstallData\logs\<DATE>\InstallDU<COMPONENT>.log`

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

## Related Information

[Installation option parameters](#) [page 42]

### 4.5.1.1.1 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:\response.ini`:

```
setup.exe -w C:\response.ini
```

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

#### **i** Note

When you specify passwords in the installation program, they are stored in the response file as `*****` for security reasons. You will need to specify the parameters on the command-line.

For example, specify the `DSCMSPassword=<password>` on the command-line:

```
setup.exe -r C:\response.ini DSCMSPassword=<password>
```

### 4.5.1.1.2 To read a response file

A response file installation is started on the command-line, but installation options are read from an ASCII text file with the options stored in key-value format. A response file installation 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 feature allows an administrator to override an option in a response file when required, and provides three levels of 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:\response.ini`, but overrides the response file's setting for the installation destination folder:

```
setup.exe -r C:\response.ini InstallDir="C:\Program Files\SAP BusinessObjects\Data Services\"
```

### 4.5.1.2 Quiet mode installations

A quiet mode installation is a command-line installation that does not prompt for installation options. Installation options must be provided on the command-line or in a response file. Any installation options not provided on the command-line or in a response file will be left at their default values.

The `-q` switch bypasses the installation program's installation wizard, and allows an installation to be performed with no human input and no console output.

For example, the following command uses the responses in `D:\response.ini` and overrides the installation destination folder (set to `C:\SAP\DataServices\` instead of the default folder).

```
setup.exe -q -r D:\response.ini InstallDir="C:\Program Files (x86)\SAP BusinessObjects\DataServices\"
```

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:

`<INSTALL_DIR>\InstallData\logs\<DATE>\InstallDU<COMPONENT>.log`

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


#### **i** Note

If you are installing SAP Data Services on a Windows system that has User Account Control (UAC) enabled, you should run the installation program with the system's built-in administrator account. If you use a normal account, a UAC prompt will appear.

## 4.5.2 Installation option parameters

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

Table 1: Installation option parameters

Parameter	Description
SetupUILanguage=<CODE>	Determines the language for the installation program to use during the installation. Substitute the language code where <CODE> is: <ul style="list-style-type: none"><li>English: EN</li></ul>
InstallDir=<PATH>	Destination folder into which the installation program will install the software.  When installing to a host that already has an installation of SAP Data Services, SAP BusinessObjects BI platform, or SAP BusinessObjects Information platform services, the value of <code>InstallDir</code> will be automatically set to the same path as the existing installation.
SelectedLanguagePacks=<CODE>	Installs language support for users and administrators to interact with SAP Data Services in a supported language. If more than one language pack is to be installed, use a semi-colon delimited list without spaces, within quotes, to separate each code. In the following example, language support for English will be installed:  <pre>SelectedLanguagePacks="en"</pre> Substitute the following language codes where <CODE> is: <ul style="list-style-type: none"><li>English: EN</li><li>Japanese: JA</li><li>Turkish:TR</li></ul>
ProductKey=<KEY>	Product license key issued when you purchased the software. Substitute <KEY> with the product key in the format xxxxx-xxxxxx-xxxxxx-xxxx.
ChooseSLDIntegration=<VALUE>	Determines whether SAP System Landscape Directory (SLD) support will be enabled or not. To enable SLD integration, set <VALUE> to <code>integrate</code> . To disable SLD integration, set <VALUE> to <code>nointegrate</code> .
DSCMSAuth=<TYPE>	Authentication type used by the Central Management Server (CMS). Substitute the authentication type where <TYPE> is: <ul style="list-style-type: none"><li>Enterprise authentication: <code>secEnterprise</code></li></ul> <div> <b>Restriction</b> Data Services supports only the Enterprise authentication method during installation.</div>

Parameter	Description
DSCMSEnableSSL=<SWITCH>	Specifies whether the Central Management Server (CMS) uses SSL security. If the CMS is configured for SSL support, set <SWITCH> to 1. If the CMS is not configured for SSL support, set <SWITCH> to 0.
DSCMSNode=<NODE>	Specifies the node name for the Central Management Server (CMS). Substitute <NODE> with the CMS node name.
DSCMSSystem=<HOST>	Hostname of the Central Management Server (CMS). Substitute <HOST> with the CMS hostname.
DSCMSUser=<USER>	User name for the CMS administrator account. Substitute <USER> with the user name.
DSCMSPassword=<PASSWORD>	Password for the CMS administrator account. Substitute <PASSWORD> with the password.
DSConfigASSelection=<SKIP>	Determines whether to configure a new Access Server during installation. This option is no longer set during installation. Set this option <VALUE> to skip.
DSConfigCMSSelection=<VALUE>	Determines whether to configure InfoObjects and the Management Console on a CMS during installation. To configure CMS-hosted components, set <VALUE> to install. To not configure CMS-hosted components, set <VALUE> to skip.
DSConfigJSSelection=<VALUE>	Determines whether to configure a new Job Server during installation. To configure a new Job Server, set <VALUE> to new. To not configure a new Job Server, set <VALUE> to skip.
DSConfigJSServerName=<NAME>	Server name for the Job Server to create during the installation process. Substitute <NAME> with the Job Server name.
DSConfigJSServerPort=<PORT>	Network TCP listening port number used by the Job Server. Substitute <PORT> with the port number.
DSConfigMergeSelection=<VALUE>	Determines whether the installation program will merge an existing DSConfig.txt configuration file with the new installation configuration. To merge an existing configuration file, set <VALUE> to install. To not merge an existing configuration file, set <VALUE> to skip.
DSExistingDSConfigFile=<PATH>	Existing DSConfig.txt configuration file to merge with the new installation configuration. Substitute <PATH> with the full path of the existing configuration file.
DSInstallInfoObjects=<VALUE>	Determines whether or not the installation program will configure the Data Services InfoObjects on the Central Management Server (CMS) during the installation process. To configure the InfoObjects during installation, set <VALUE> to true. To not configure the InfoObjects, set <VALUE> to false.

Parameter	Description
DSInstallTypeSelection = <b>&lt;VALUE&gt;</b>	Determines the type of installation to run. To run the installation with default configuration, set <b>&lt;VALUE&gt;</b> to EXPRESS. To run the installation without configuration, set <b>&lt;VALUE&gt;</b> to CUSTOM.
DSJSDetailCacheDirectory= <b>&lt;DIRECTORY&gt;</b>	Directory where the Job Server pageable cache should be configured. Substitute <b>&lt;DIRECTORY&gt;</b> with the full directory path.
DSJSDetailCommPort= <b>&lt;PORT&gt;</b>	Network TCP listening port number used by the Job Server for adapter and message broker communication. Substitute <b>&lt;PORT&gt;</b> with the port number.
DSJSDetailEnableSSL= <b>&lt;SWITCH&gt;</b>	Determines whether SSL support will be enabled on the Job Server. To enable SSL on the Job Server, set <b>&lt;SWITCH&gt;</b> to 1. To not enable SSL support, set <b>&lt;SWITCH&gt;</b> to 0.
DSJSDetailEndPort= <b>&lt;PORT&gt;</b>	Ending network TCP listening port number used by the Job Server when sending data between data flows or sub data flows. Substitute <b>&lt;PORT&gt;</b> with the port number.
DSJSDetailStartPort= <b>&lt;PORT&gt;</b>	Starting network TCP listening port number used by the Job Server when sending data between data flows or sub data flows. Substitute <b>&lt;PORT&gt;</b> with the port number.
DSJSDetailSupportComm= <b>&lt;SWITCH&gt;</b>	Determines whether or not the Job Server will support adapter or message broker communication. To enable communication support on the Job Server, set <b>&lt;SWITCH&gt;</b> to 1. To not enable communication support, set <b>&lt;SWITCH&gt;</b> to 0.
DSJSPCacheEnableSSL= <b>&lt;SWITCH&gt;</b>	Determines whether or not SSL support will be enabled for pageable cache on the Job Server. To enable SSL support, set <b>&lt;SWITCH&gt;</b> to 1. To not enable SSL support, set <b>&lt;SWITCH&gt;</b> to 0.
DSLoginInfoAccountSelection= <b>&lt;VALUE&gt;</b>	Determines whether the Data Services service will log onto the host system using the system account or a specific user account. To log onto the host system using the system account, set <b>&lt;VALUE&gt;</b> to system. To log onto the host system using a specific user account, set <b>&lt;VALUE&gt;</b> to this.
DSLoginInfoThisPassword= <b>&lt;PASSWORD&gt;</b>	Password for the account that the Data Services service should use to log onto the host system. Substitute <b>&lt;PASSWORD&gt;</b> with the password.
DSLoginInfoThisUser= <b>&lt;USER&gt;</b>	User name for the account that the Data Services service should use to log onto the host system. Substitute <b>&lt;USER&gt;</b> with the user name.
DSMDSJMXPort= <b>&lt;PORT&gt;</b>	Network TCP listening port number used by the Metadata Browsing Service for the JMX connector. Substitute <b>&lt;PORT&gt;</b> with the port number.
DSMDSPort= <b>&lt;PORT&gt;</b>	Network TCP listening port number used by the Metadata Browsing Service. Substitute <b>&lt;PORT&gt;</b> with the port number.

Parameter	Description
DSRepoCreateUpgrade=<VALUE>	Determines whether to create or upgrade a Data Services local repository during the installation process. To create a new local repository, set <VALUE> to Create.
DSRepoDBDataSource=<blank>	Stores the ODBC System DSN. This option no longer used.
DSRepoDBHost=<HOST>	Hostname for the database server that will contain the Data Services repository. Substitute <HOST> with the hostname.
DSRepoDBName=<NAME>	Database name for the database that will contain the Data Services repository. Substitute <NAME> with the database name.
DSRepoDBPasswd=<PASSWORD>	Password for the database account that will be used to access the repository database. Substitute <PASSWORD> with the account password.
DSRepoDBPort=<PORT>	Network TCP listening port number used by the database that will host the Data Services repository. Substitute <PORT> with the port number.
DSRepoDBType=<TYPE>	Type of database that will host the Data Services repository. Substitute the database type where <TYPE> is: <ul style="list-style-type: none"> <li>• Microsoft SQL Server: Microsoft_SQL_Server</li> <li>• MySQL: MySQL</li> <li>• Oracle: Oracle</li> <li>• DB2: DB2</li> <li>• SAP HANA: HANA</li> <li>• SAP Sybase SQL Anywhere: SQL_Anywhere</li> <li>• Sybase ASE: Sybase</li> </ul>
DSRepoDBUser=<USER>	User name for the database account that will be used to access the repository database. Substitute <USER> with the account user name.
DSRepoDBVersion=<VALUE>	The version of the database that will host the Data Services repository. Substitute the database version where <VALUE> is: <ul style="list-style-type: none"> <li>• Oracle 10g: ORACLE10</li> <li>• Oracle 11g: ORACLE11</li> <li>• DB2 UDB 9.x: DB2V9</li> <li>• DB2 UDB 10.x: DB2V10</li> <li>• MySQL 5.0: MYSQL5v1</li> <li>• MySQL 5.1: MYSQL5v2</li> <li>• MySQL 5.5: MYSQL5v5</li> <li>• HANA 1.x: HANA</li> <li>• SQL Anywhere 12.x: SQLANYWHERE12</li> </ul>
DSRepoNameForCMS=<NAME>	Name that will be used to register the Data Services repository in the Central Management Server (CMS). Substitute <NAME> with the repository name.

Parameter	Description
DSRepoOracleSID=<VALUE>	User-specific Oracle SID required to use Oracle as the repository database.
DSRepoSelection=<VALUE>	Determines whether or not to configure a new repository during the installation process. To configure a new repository, set <VALUE> to new. To not configure a new repository, set <VALUE> to existing.
DSRepoWindowsAuth=<SWITCH>	Specifies whether or not the repository database uses Windows authentication. If the database uses Windows authentication, set <SWITCH> to 1. If the database uses a different authentication method, set <SWITCH> to 0.
DSVDSJMXPort=<PORT>	Network TCP listening port number used by the Viewdata Service for the JMX connector. Substitute <PORT> with the port number.
DSVDSPort=<PORT>	Network TCP listening port number used by the Viewdata Service. Substitute <PORT> with the port number.
Features=<CODE>	<p>List of components to install. To select multiple features, use a comma-delimited list without spaces to give each code. In the following example, the Job Server and Access Server will be selected for install:</p> <pre>Features=DataServicesJobServer,DataServicesAccess-Server</pre> <p>For a complete list of feature codes, see <a href="#">Feature codes</a> [page 46].</p>

## 4.5.2.1 Feature codes

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 the Job Server and documentation files:

```
features=DataServicesJobServer,DataServicesDocumentation
```

### **i** Note

English is installed automatically.

- root: install all features
  - DataServicesServer: install all server components
    - DataServicesJobServer
    - DataServicesAccessServer
  - DataServicesClient: install all client components
    - DataServicesDesigner (Designer and Workbench)
    - DataServicesManagementConsole

- DataServicesEIMServices: install services to the Adaptive Processing Server (APS)
- DataServicesMessageClient
- TextDataProcessingLanguages: install all text data processing languages
  - TextDataProcessingArabic
  - TextDataProcessingBokmal
  - TextDataProcessingCatalan
  - TextDataProcessingCroatian
  - TextDataProcessingCzech
  - TextDataProcessingDanish
  - TextDataProcessingDutch
  - TextDataProcessingFarsi
  - TextDataProcessingFrench
  - TextDataProcessingGerman
  - TextDataProcessingGreek
  - TextDataProcessingHebrew
  - TextDataProcessingHungarian
  - TextDataProcessingItalian
  - TextDataProcessingJapanese
  - TextDataProcessingKorean
  - TextDataProcessingNynorsk
  - TextDataProcessingPolish
  - TextDataProcessingPortuguese
  - TextDataProcessingRomanian
  - TextDataProcessingRussian
  - TextDataProcessingSerbian
  - TextDataProcessingChinese (Simplified Chinese)
  - TextDataProcessingSlovak
  - TextDataProcessingSlovenian
  - TextDataProcessingSpanish
  - TextDataProcessingSwedish
  - TextDataProcessingThai
  - TextDataProcessingTChinese (Traditional Chinese)
  - TextDataProcessingTurkish
- DataServicesDataDirect: install the DataDirect ODBC driver manager library
- DataServicesDocumentation: install documentation files

### 4.5.2.2 Response file example

The following example response file contains options for installing SAP Data Services using Microsoft SQL Server as the repository database type.

## Example

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

```
### *** property.ChooseSLDIntegration.description ***
choosesldintegration=nointegrate

### #property.CMSAUTHENTICATION.description#
cmsauthentication=secEnterprise

### CMS administrator password
cmspassword=*****

### #property.CMSUSERNAME.description#
cmsusername=Administrator

### #property.CMSAuthMode.description#
dscmsauth=secEnterprise

### #property.CMSEnabledSSL.description#
dscmsenablenessl=0

### #property.CMSNode.description#
dscmsnode=boenode

### #property.CMSNodeList.description#
dscmsodelist=boenode

### CMS administrator password
dscmspassword=*****

### #property.CMSServerPort.description#
dscmsport=6400

### #property.CMSServerName.description#
dscmssystem=localhost

### #property.CMSUser.description#
dscmsuser=Administrator

### #property.DSConfigCMSSelection.description#
dsconfigcmsselection=install

### #property.DSExistsOnCMS.description#
dsexistsoncms=1

### #property.DSInstallTypeSelection.description#
dsinstalltypeselection=Express

### #property.DSLocalCMS.description#
dslocalcms=true

### #property.DSInstallInfoObjects.description#
dsinstallinfoobjects=false

### #property.DSLoginInfoAccountSelection.description#
dslogininfoaccountselection=this

### #property.DSLoginInfoThisPassword.description#
dslogininfothispassword=*****

### #property.DSLoginInfoThisUser.description#
dslogininfothisuser=DOMAIN\USER

### #property.DSMoreThanOneCMSNode.description#
dsmorethanonecmsnode=0
```

```

### #property.DSRepoCreateUpgrade.description#
dsrepocreateupgrade=Create

### #property.DSRepoDBDataSource.description#
dsrepodbdatasource=

### #property.DSRepoDBHost.description#
dsrepodbhost=localhost

### #property.DSRepoDBName.description#
dsrepodbname=ds_repo

### #property.DSRepoDBPasswd.description#
dsrepodbpasswd=dbpasswd

### #property.DSRepoDBPort.description#
dsrepodbport=1433

### #property.DSRepoDBType.description#
dsrepodbtype=Microsoft_SQL_Server

### #property.DSRepoDBUser.description#
dsrepodbuser=dbuser

### #property.DSRepoDBVersion.description#
dsrepodbversion=

### #property.DSRepoNameForCMS.description#
dsreponameforcms=shared_new

### #property.DSRepoOracleConnStr.description#
dsrepooracleconnstr=

### #property.DSRepoOracleRAC.description#
dsrepooraclerac=No

### #property.DSRepoOracleSID.description#
dsrepooraclerac=No

### #property.DSRepoOracleSID.description#
dsrepooraclerac=No

### #property.DSRepoWindowsAuth.description#
dsrepowindowsauth=0

### Installation folder for SAP products
installdir=C:\Program Files (x86)\SAP BusinessObjects\

### #property.MasterCmsName.description#
mastercmsname=WIN2K8R2

### #property.MasterCmsPort.description#
mastercmsport=6400

### Keycode for the product.
productkey=XXXXXX-XXXXXXX-XXXXXXX-XXXX

### #property.SelectedLanguagePack.description#
selectedlanguagepacks=en

### *** property.SetupUILanguage.description ***
setupuilanguage=en

### Available features
### -----
### root
###   DataServicesServer
###   DataServicesJobServer
###   DataServicesAccessServer
###   DataServicesClient
###   DataServicesDesigner

```

```

### DataServicesManagementConsole
### DataServicesEIMServices
### DataServicesMessageClient
### TextDataProcessingLanguages
###   TextDataProcessingArabic
###   TextDataProcessingBokmal
###   TextDataProcessingCatalan
###   TextDataProcessingCroatian
###   TextDataProcessingCzech
###   TextDataProcessingDanish
###   TextDataProcessingDutch
###   TextDataProcessingFarsi
###   TextDataProcessingFrench
###   TextDataProcessingGerman
###   TextDataProcessingGreek
###   TextDataProcessingHebrew
###   TextDataProcessingHungarian
###   TextDataProcessingItalian
###   TextDataProcessingJapanese
###   TextDataProcessingKorean
###   TextDataProcessingNynorsk
###   TextDataProcessingPolish
###   TextDataProcessingPortuguese
###   TextDataProcessingRomanian
###   TextDataProcessingRussian
###   TextDataProcessingSerbian
###   TextDataProcessingChinese
###   TextDataProcessingSlovak
###   TextDataProcessingSlovenian
###   TextDataProcessingSpanish
###   TextDataProcessingSwedish
###   TextDataProcessingThai
###   TextDataProcessingTChinese
###   TextDataProcessingTurkish
### DataServicesDataDirect
### DataServicesDocumentation
features=DataServicesJobServer,DataServicesAccessServer,DataServicesServer,DataSer
vicesDesigner,DataServicesClient,DataServicesManagementConsole,DataServicesEIMServ
ices,DataServicesMessageClient,DataServicesDataDirect,DataServicesDocumentation

```

## 5 Post-Installation

This section describes the activities that should be performed after the installation program has finished.

If you received instructions on the Post Installation Steps screen, after the installation was complete, you can find a copy of the instructions in the following location:

`<DS_COMMON_DIR>\log\PostInstallationInstructions.txt`

### 5.1 Configuring a Windows cluster

After you create a Windows cluster and install the software on a shared drive from the first cluster host system:

1. Create the Data Services Service as a *Generic Service* with `DI_JOBSERVICE` as the Service Name.
2. Share the registry key name `HKEY_LOCAL_MACHINE\SOFTWARE\SAP BusinessObjects`.
3. Create a folder named `All Users` under `<LINK_DIR>`.
4. Copy all folders and files under `<DS_COMMON_DIR>` and paste into the new `All Users` folder.
5. Set all permissions (read, write, and execute) needed for all users to share this folder.
6. Go to the Windows System properties and change the value of the `<DS_COMMON_DIR>` environment variable to `<LINK_DIR>\All Users`.
7. Run the cluster install utility (`js_cluster_install.exe`) on the other cluster host systems to populate them with the Data Services service-related information.

By default, `js_cluster_install.exe` is installed in `<LINK_DIR>\bin`.

- a) Copy `js_cluster_install.exe` from `<LINK_DIR>\bin` and `bodi_cluster_conf.txt` from `<DS_COMMON_DIR>\conf` on your primary cluster computer.
- b) Paste these files to each non-primary cluster computer and run the following commands:

If using the system account:

```
js_cluster_install.exe -install
```

If not using the system account on the primary node:

```
js_cluster_install.exe -install -U<user> -P<password> -D<domain>
```

The Data Services service is installed, and shortcuts set up on the primary cluster are replicated.

#### Note

If Job Servers are already configured before you enter the Cluster Network Name, the Server Manager will prompt you to enter a password for each currently configured repository associated with each configured Job Server.

- c) Click *Restart*.
  - d) Run the cluster install utility (`js_cluster_install.exe`) on the other cluster host systems to populate them with the Data Services service-related information.
8. Run the License Manager on the other cluster host systems to enter the license key.

## 5.2 Configuring JDBC drivers for SAP HANA, Oracle, and MySQL

If you are using an SAP HANA, Oracle, or MySQL database as a Data Services repository, source, or target and did not configure the JDBC driver during installation, you must manually copy your JDBC driver to the locations required by Data Services.

1. Download the JDBC driver for your database to a location on the Data Services host system.
2. Copy the JDBC driver to all locations required by Data Services.
  - For the SAP HANA database:
    - `<LINK_DIR>\ext\lib`
    - `<BIP_INSTALL_DIR>\java\lib\bundles`
    - `<BIP_INSTALL_DIR>\warfiles\webapps\DataServices\WEB-INF\lib`  
(Required only if you are using Data Quality reports.)
  - For Oracle and MySQL databases:
    - `<LINK_DIR>\ext\lib`
    - `<BIP_INSTALL_DIR>\java\lib\im\<database_type>`  
Where `<database_type>` is `mysql` for MySQL, and `oracle` for Oracle.
    - `<BIP_INSTALL_DIR>\warfiles\webapps\DataServices\WEB-INF\lib`  
(Required only if you are using Data Quality reports.)
3. Refresh the JDBC configuration.
  - If you are using Data Quality reports, use WDeploy to re-deploy all Data Services web applications to your application server with the new JDBC driver configuration.
  - If you are not using Data Quality reports, use the Central Management Console (CMC) to restart the EIM Adaptive Processing Server.  
For more information about restarting services in the CMC, see the *SAP BusinessObjects BI Platform Administrator Guide* or the *SAP BusinessObjects Information platform services Administrator Guide*.

### Related Information

[WDeploy](#) [page 89]

## 5.3 Configuring repositories

Before you can use the Data Services system, you need to configure repositories and register them in the Central Management Console (CMC).

In general, the process to configure a Data Services repository is:

1. Create a database for the repository on your database server.

2. Create the repository in the database with the Repository Manager.
3. Log into the CMC.
4. Register the repository in the CMC with the [Data Services](#) application.
5. Assign user access to the repository with the [Data Services](#) application.

For more information about creating and configuring repositories, see the *Administrator Guide*.

## 5.4 Configuring users and groups

Before you can use the Data Services system, you need to configure users and groups in the Central Management Console (CMC).

In general, the process to configure Data Services users and groups is:

1. Log into the CMC.  
To create and modify user accounts, you must log in as a user with administrative access.
2. Create user accounts and assign them to Data Services user groups with the [Users and Groups](#) application.
3. Assign repository access to your users and groups with the [Data Services](#) application.

For more information about configuring users and groups for Data Services, see the *Administrator Guide*.

## 5.5 Configuring Job and Access Servers

If you did not configure them during installation, you need to use the Server Manager to configure Job Servers for batch jobs and Access Servers for real-time applications before you can use the Data Services system.

In general, the process to configure Data Services Job Servers and Access Servers is:

1. Add and configure Job Servers with the Server Manager.
  - a) Add the Job Server configuration.
  - b) Associate local and profiler repositories with the Job Server.
2. Add and configure Access Servers with the Server Manager.
3. Restart the Data Services service and verify that the Job and Access Servers are running.

For more information about using the Server Manager to configure Job and Access Servers, see the *Administrator Guide*.

## 5.6 Configuring profiler repository connectivity

For the Designer to connect to a profiler repository, you can configure either of the following connection types:

- Server name (also known as DSN-less or TNS-less) connections

- DSN or TNS connections

To use DSN-less and TNS-less connections:

1. Login to the Central Management Console (CMC) and register the local repository and select the repository connection type on the *Data Services Repository Properties* screen:
  - For an Oracle database, select *No* in the drop-down list for *Use TNS name*.
  - For a DB2, MySQL, or SAP HANA database, select *No* in the drop-down list for *Use data source name (DSN)*.
2. Register the profiler repository and select the connection type to also TNS-less or DSN-less.
3. Configure the ODBC driver for the database type.
  - For Windows, use the ODBC Driver Selector. For details, see “Using the Windows ODBC Driver” in the *Administrator Guide*.
  - For UNIX, use the Connection Manager. For details, see “Using the Connection Manager for UNIX systems” in the *Administrator Guide*.

For DSN or TNS connections, the database connectivity settings on all host machines in the Data Services deployment must match. Without matching connectivity settings, the results of profiling tasks will not be visible from within the Designer. Ensure that the same profiler database connectivity settings are used on each host machine.

#### Example

##### MySQL repository

In this example, the profiler repository is a MySQL database running on a separate host machine from the Designer. The Job Server is configured on the same host machine as the MySQL database, and all its connectivity settings to the database are configured on that host machine. For example, the DSN information.

When the Designer submits a profiler task to the Job Server, the Job Server has the information required to connect to the profiler repository and the profiler request is processed successfully.

If the Designer then tries to view the profiled data, it attempts to connect to the profiler repository directly and not through the profiler server. If connectivity to the profiler database is not configured on the Designer host machine, the results of the profiling task will not be visible.

However, if the same DSN and connectivity settings are already configured on the Designer host machine, the results of the profiling task are visible as expected.

## 5.7 Deploying web applications

The Data Services installation program only automatically deploys web applications to the application server bundled with the BI platform.

If the installation program did not automatically deploy web applications to your web application server, you must deploy them 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.

If you have not previously deployed the Data Services web applications to this application server, you must undeploy and redeploy all SAP web applications.

To use the WDeploy GUI to undeploy and redeploy the web applications:

1. Start the WDeploy GUI.  
`wdeployGUI.bat`
2. Specify your application server type and enter any configuration information required for your application server type.
3. Undeploy all SAP web applications.
4. Deploy all SAP web applications.

#### **i** Note

If the BI platform web applications have previously been deployed on the web application server, the deployment operation may take several minutes.

You can also use the `undeployall` and `deployall` commands to deploy the web applications from the command line.

```
wdeploy <server_type> undeployall -Das_admin_password=<password>
```

```
wdeploy <server_type> deployall -Das_admin_password=<password>
```

For more information about the server types and more advanced options available in WDeploy, such as deploying only a single web application, see “Additional Information, WDeploy”.

## Related Information

[WDeploy](#) [page 89]

## 5.8 Verifying real-time connectivity

This section describes specific steps that you can follow to test the SAP Data Services real-time features after installation. These step-by-step procedures use sample files available in the software installation.

### 5.8.1 Distributing the test files

The SAP Data Services installation includes test files to exercise connectivity between each component of the system. To perform the connectivity test, place test files in the appropriate locations on the various computers used in your application.

Test file	Copy from	Copy to
ClientTest.exe	LINK_DIR\Bin	Web client computer, C:\temp
mny2412d.dll	LINK_DIR\Bin	Web client computer, C:\temp

Test file	Copy from	Copy to
functor2312d.dll	LINK_DIR\Bin	Web client computer, C:\temp
functor_list2312d.dll	LINK_DIR\Bin	Web client computer, C:\temp
itc2312d.dll	LINK_DIR\Bin	Web client computer, C:\temp
network1712d.dll	LINK_DIR\Bin	Web client computer, C:\temp
pointer2312d.dll	LINK_DIR\Bin	Web client computer, C:\temp
sync2312d.dll	LINK_DIR\Bin	Web client computer, C:\temp
thread2312d.dll	LINK_DIR\Bin	Web client computer, C:\temp
threexcept2312d.dll	LINK_DIR\Bin	Web client computer, C:\temp
tls7712d.dll	LINK_DIR\Bin	Web client computer, C:\temp
ClientTest.txt	LINK_DIR\ConnectivityTest	Web client computer, C:\temp
TestIn.xml	LINK_DIR\ConnectivityTest	Web client computer, C:\temp
TestIn.xml	LINK_DIR\ConnectivityTest	Designer computer, C:\temp
TestIn.dtd	LINK_DIR\ConnectivityTest	Designer computer, C:\temp
TestOut.dtd	LINK_DIR\ConnectivityTest	Designer computer, C:\temp

### **i** Note

You must keep the DLL files specified in the preceding table with `ClientTest.exe`. To move `ClientTest.exe`, re-run the Message Client Setup and point it to the directory you want.

You need not move the `TestConnectivity.atl` file from its location on the Designer computer.

## 5.8.2 To test a job

When you execute a real-time job from the Designer, it always executes in test mode using a file as input and producing a file as output.

The test files include a sample job and data flow that you can use to verify that a real-time job can successfully execute from the Designer. Test files include the XML test input for the flow (the string "Hello World") and the corresponding DTD for flow input and output.

This procedure describes how to import, display, execute, and show output for the test flow.

1. Start SAP Data Services and log into your repository.

Choose **Start** > **Programs** > **SAP Data Services <x.x>** > **Data Services Designer** from the program group created by the installation. The Designer prompts you for login information associated with your repository database.

2. From the **Tools** menu, select **Import from File**.

3. Navigate in the software install directory to `\ConnectivityTest`.
4. Select the test ATL file `TestConnectivity.atl` and click *Open*.
5. In the *Project* menu, select *NewProject*.
6. Name the project **TestConnectivity** and click *Create*.
7. In the *Jobs* tab of the object library, expand the *Real-time Jobs* category; then click, drag, and drop `Job_TestConnectivity` over the `TestConnectivity` folder in the *Project* area.
8. In the workspace, click the name of the data flow.
9. In the project area, right-click `Job_TestConnectivity` and select *Execute*.
10. In the *Execution Properties* window, click *OK*.

The software reads the sample file `C:\Temp\TestIn.xml`, inverts the order of the two words in the string, and writes the output to the `C:\Temp\TestOut.xml` file.

11. Read the information in the *Job Log* window to verify if the `TestOut.xml` file is correct. Use the job log information to troubleshoot problems.
12. If the job was successful, navigate to the `C:\Temp\` directory on the Designer's computer and open `TestOut.xml`.

You can display the file in a browser or text editor.

## 5.8.3 Testing the path from client to service

When your real-time job runs in a normal production environment, you can use it to process a service request from a Web client. In production, Web clients send messages and real-time services receive and process those messages, triggering real-time jobs. Use the Management Console Administrator to set up real-time services.

### 5.8.3.1 To process a service request from a Web client

1. Add and start the service in the Administrator.

The Access Server starts service providers which are instances of jobs associated with the listed services.

2. Send a request from your Web client to the Access Server.

The Access Server sends a request to the appropriate service provider, then the service provider sends a response to the Access Server. The Access Server returns the response to the Web client.

### 5.8.3.2 Configuring the Access Server

The Administrator allows you to view the status of services controlled by the Access Server and to change their configuration.

After you install the Access Server, the SAP Data Services service automatically launches the Access Server when your computer restarts or when you stop and start the service.

### 5.8.3.2.1 To start the Administrator

1. Choose ► [Start](#) ► [Programs](#) ► [SAP Data Services 4.1](#) ► [Data Services Management Console](#) ►.

The Management Console browser opens.

If it does not appear:

- Check that the port number is not being used by another application.
  - Use a static IP address instead of the host name to locate the Administrator computer.
2. Log in to the Management Console using the default name (admin) and password (admin).
  3. Click the [Administrator](#) icon to open the Web Administrator.

### 5.8.3.2.2 To add your repository for Administrator access

1. In the Administrator, select ► [Management](#) ► [Repositories](#) ► [Add](#) ►.
2. Enter your repository connection information and click [Apply](#).

### 5.8.3.2.3 To configure the Access Server to listen for responses from services

1. In the Administrator, add a connection to an installed Access Server by selecting ► [Management](#) ► [Access Servers](#) ► [Add](#) ►.
2. Enter your Access Server's machine name and communication port, select [Ping](#) to test the connection, then click [Apply](#).

### 5.8.3.2.4 To add a service

1. In the Administrator's navigation tree, select ► [Real-time](#) ► [Access Server Machine Name: Port](#) ► [Real-time Services](#) ► [Configuration](#) ►.
2. Click [Add](#).

The Access Server adds a service to the list (NewService1) and displays the configuration boxes for the new service.

3. Enter the following sample information in the Configuration section for the service.

Accept the default values for the service parameters.

Field	Test Values	Description
Service Name	TestConnectivity	The message type included in the call from the client.
Job Name	Job_TestConnectivity	Browse jobs.

4. Click [Apply](#).

The Administrator prompts you to assign a Job Server to the Service.

5. Under Job Servers for Service, click [Add](#).
6. If you have one Job Server, the Administrator automatically selects it for you. Click [Apply](#). Otherwise, select a Job Server from the list and click [Apply](#).
7. Click the [Status](#) tab.

The Administrator adds the new service (named after the job) and a service provider to the list for this service. In the status row for each service provider, find the computer name and Job Server port where the service provider is running. The process ID for the service provider is related to this invocation of the Job Server.

8. Verify host name and port number for the new service provider.

In the list of service providers, verify that the host name and port for the new service provider correctly indicate the computer where the Job Server is installed and the port that the Job Server is configured to use.

You specified the Job Server port number when you configured the Job Server at installation.

9. In the navigation tree, click [Real-Time Services](#) to return to the first Real-Time Service Status page.

The name of the Service should be next to a green icon which indicates that the Service started successfully.

When a service starts, the Administrator triggers the Access Server which triggers the Job Server to get job information from the repository. The job registers as a service with the Access Server. The Administrator displays the service status (started).

If the service did not start, you can start it manually from the current page.

### 5.8.3.3 Web client to Access Server

A Web client opens a connection to the Access Server using a call in the Message Client library. The call includes the host and port information required to make the connection.

The ClientTest executable file provided in the SAP Data Services installation incorporates the library calls so you can easily test the connection between the Web client computer and the Access Server.

#### 5.8.3.3.1 To process a test request

1. On the computer where your Web client application is installed, send a request for the software to process.

Copy the command, `C:\Temp\ClientTest.txt` and enter it in a command prompt:

```
ClientTest -A<Host> -p<Port> -U<user> -P<password> -SserviceName -XC:\Temp\
TestIn.xml
```

If the Access Server is SSL enabled, use the following command:

```
ClientTest -A<Host> -p<Port> -S<servicename> -XC:\Temp\TestIn.xml -
useSSL<location of trusted certificates> -I1
```

The location of the trusted certificates is, for example, `C:\Program Files (x86)\SAP\Data Services\ssl\trusted_certs`

2. Look for the response in the command prompt.
3. When you are ready to configure the Access Server to run your own services, first stop the Access Server, then restart it.

## 5.8.3.3.2 ClientTest utility options

### Syntax

-A<host>	Identifies the Access Server host computer by name or IP address.
-p<portNumber>	Identifies the port on which Access Server listens for Web client requests.
-S<serviceName>	<div>Specifies the name of the service that you want to invoke.</div> <div>C:\Temp\TestIn.xml</div> <div>Indicates the location of the sample XML request that will be sent to the Access Server for processing.</div>
-X<fileName>	Indicates the file path and name for the XML file.
[-U<userName>]	Indicates the user name you specified in the Security section of the Access Server configuration file. The test configuration does not specify a user, but the Client Test utility expects some value. Enter any character. Default is "user".
[-P<password>]	Indicates the password you specified in the Security section of the Access Server configuration file. The test configuration does not specify a password, but the Client Test utility expects some value. Enter any character. Default is "password".

[-C<count>]	Number of times to connect to the Access Server. Default is 1
[-I<count>]	Number of times to invoke the service per connection. Default is 1.
[-Y<count>]	Request rate in requests per hour.
[-L<count>]	Number of clients running simultaneously. Default is 1.
[-useSSL<Directory>]	Use SSL communication using the trusted certificates (*.pem) in the directory <Directory>.

## 5.8.4 Further connectivity tests

There are more tests that you can run to define all the connections that you will need. For example, you can use the existing Access Server configuration and make changes to the data flow and input files in the sample real-time job. In particular, consider making simple additions to the data flow in the real-time job to check the following connection:

- From job to ERP system  
To test this connection, add a source from the ERP system in a data flow of the real-time job and extract a single value to return as a response to the client.

## 5.9 Connecting to Hadoop

Data Services can connect to Apache Hadoop frameworks, including HDFS and Hive sources and targets. Data Services must be installed on Linux in order to work with Hadoop.

For more information, see the "Hadoop" section in the *Reference Guide*.

## 5.10 Troubleshooting installation problems

Errors that prevent installation progress (for example, an incorrect server name, user name, or password) result in an immediate error message describing the problem.

For some common issues, such as the service scheduler failing to launch SAP Data Services, reboot the host system after installation has finished.

## 5.10.1 Repository problems

Common repository-related installation errors include:

- The DBMS connection was lost while building the repository tables. If this happens, recreate the repository with the Repository Manager.
- There is not enough space available in the database for the repository tables. If this happens, use your DBMS administration tools to allocate more space for the repository and run the Repository Manager.

If you experience problems when upgrading or creating a repository, you can select the [Show Details](#) check box before you click [Update](#) or [Create](#) again. This option allows you to view the SQL code that SAP Data Services uses to perform these operations. The [Show Details](#) option can help you diagnose problems.

For more information about the Repository Manager, see the *Administrator Guide*.

## 5.10.2 Windows and UNIX issues

### File or application in use

When installing or uninstalling SAP Data Services on Windows 7 or Windows Server 2008, you may receive messages about files in use or applications that should be closed. You can safely ignore these messages and continue to install or uninstall the software.

Ignoring these messages will have no impact on the installation or behavior of the software.

### Update to file access rights failed

When installing Data Services on Windows 7, or Windows Server 2008, you may receive this warning if the installation setup program is unable to set file access rights.

To manually update the file access rights, you can use the `grantFileAccess.bat` batch file. This batch file is installed to the [<LINK\\_DIR>](#)\bin folder and takes one parameter as input, the software's common configuration directory ([<DS\\_COMMON\\_DIR>](#)).

For example, on Windows Server 2008:

```
grantFileAccess.bat "C:\ProgramData\SAP BusinessObjects\Data Services"
```

If the path contains spaces, you must enclose it in double quotes.

### Windows 2012 Datacenter error: SAP Data Services Designer - Cannot open trace file

When you logon to Microsoft Window Server 2012 Datacenter as Power User, you cannot run Designer as Power User or Run as Administrator. To correct this issue, you must set the `\ProgramData` folder to shared.

1. In Explorer, locate and right click the C:\ProgramData folder.
2. Select ► [Share with > Specific people](#) .
3. Select [Everyone](#) or the specific users that should have access to the folder and click [Add](#).
4. Set the [Permission Level](#) for each user to [Read/Write](#) and click [Share](#).

## The xml mapping file can not be found or loaded

When installing Data Services 4.0 Service Pack 2 on top of Data Services 4.0 (Service Pack 1 is not installed), you might get an error message telling you that the installer could not find or load the xml mapping file.

To resolve this issue, you must run a Repair installation by doing the following:

1. Close all Data Services applications (for example, Designer, License Manager, and so on) in all user sessions.
2. End all Data Services jobs that are currently running.
3. Log off all user sessions that are logged into the machine (for example, remote desktop connections). To view a list of users that are logged into a machine, go to the [Task Manager](#) window and click the [Users](#) tab.
4. Go to ► [Start](#) ► [Control Panel](#) ► [Programs and Features](#) .
5. Right-click on the current version of SAP Data Services and click [Uninstall/Change](#) and select [Repair](#).

## An OCX file is missing or you can't register it

When installing Data Services 4.0 Service Pack 2 on top of Data Services 4.0 (Service Pack 1 is not installed), you might get an error message telling you that the VSFLEX8N.OCX or BODIFFCTRL.OCX file is missing or that you do not have the required privileges to register the file.

To resolve this issue, use the REGSVR32.EXE utility to register the file.

1. Right-click on the Command Prompt icon and select [Run as Administrator](#).
2. Enter one of the following commands:
  - regsvr32.exe "%LINK\_DIR%\bin\BODIFFCTRL.OCX"
  - regsvr32.exe "%LINK\_DIR%\system32\VSFLEX8N.OCX"

## Installation is slow

You should enter CMS logon information when installing Data Services on a machine with BOE or IPS. If you don't, the installation process may take longer than normal to run.

This is observed in the following installation scenarios:

- New installation of SAP Data Services 4.0 SP2
- Update install from previous versions to SAP Data Services 4.0 SP2
- Update install from SAP Data Services 4.0 SP2 to SAP Data Services 4.0 SP2 Patch1

## Problem installing from UNC path

A failure might occur in the CMS Connection screen when launching the SAP Data Services setup executable from the UNC path (\\machinename\...\...). This happens because the CLASSPATH path exceeds the operating system limitation.

To resolve the issue, copy the package to and launch the package from a local file system or map to the local drive.

## Unable to add or remove keycodes in License Manager

When using License Manager, you may not have the necessary permissions to add or remove keycodes from the Windows registry.

### Note



Having the UAC (User Access Control) option enabled may limit access to the registry.

To resolve this issue, launch the License Manager as an administrator (right-click on the License Manager icon and select Run as administrator) before trying to add or remove keycodes.

## Trouble performing an Update installation



You might get an error while performing an Update installation while you have SAP Data Services applications open in a current user session or in other user session. As a result, Data Services applications may not launch correctly or you might get an error telling you that you have missing files.

To resolve this issue, you must run a Repair installation by doing the following:

1. Close all Data Services applications (for example, Designer, License Manager, and so on) in all user sessions.
2. End all Data Services jobs that are currently running.
3. Log off all user sessions that are logged into the machine (for example, remote desktop connections). To view a list of users that are logged into a machine, go to the [Task Manager](#) window and click the [Users](#) tab.
4. Go to  [Start](#) > [Control Panel](#) > [Programs and Features](#) .
5. Right-click on the current version of Data Services and click [Uninstall/Change](#) and select [Repair](#).

## During Modify installation features are not enabled or installed

In the [Maintenance Installation](#) window, the feature tree selections may not be correct or a feature may show as already installed when doing the following:

1. Go to  [Start](#) > [Control Panel](#) > [Programs and Features](#) .
2. Right-click on the current version of Data Services and click [Uninstall/Change](#) and select [Repair](#).

3. Click *Next* and then click *Back*.
4. Click *Modify* and then click *Next*.

If you proceed with the incorrect selections, all unselected features (if previously installed) will be uninstalled and only the current features shown as selected will be kept or installed.

To resolve this issue, do the following:

1. Click *Cancel* and then *Exit Setup* to exit the current maintenance installation window.
2. Re-launch the maintenance installation.
3. Click *Modify* and then click *Next*. This refreshes the feature tree selections and correctly displays the installed features as checked.
4. Run a Modify installation by adding or removing features as needed.

## Requirement to launch InstallIPS executable

The `InstallIPS.exe` application is generated via Visual Studio 2005. Thus, it has a dependency on Microsoft Visual C++ 2005 Redistributable Package. Go to <http://blogs.msdn.com/b/nikolad/archive/2005/09/02/running-c-application-built-by-vc-express-on-another-computer.aspx> for more information.

To resolve this issue, do the following:

1. Install `vcredist_x64.exe` on your system. You can download this redistributable library from the Microsoft website or you can get it from the Data Services Deployment Unit. The Data Services Deployment Unit can be found at `<top package level>\dunit\tp.microsoft.vcredist-8.0-core-64\actions`.
2. Double-click on `InstallIPS.exe` to launch the package.

## Manual Web Deployment

To do manual deployment of SAP Data Services web application on any of the supported web application servers using WDeploy, do the following:

### Note

These instructions assume that you already have Business Intelligence platform (formerly BOE) already deployed on the web application server before Data Services is installed.

1. Run WDeploy on Data Services to deploy the web application. WDeploy is installed as part of Business Intelligence platform (formerly BOE) to help deploy web applications to web application servers.
2. Redeploy Business Intelligence platform (formerly BOE) web application using wDeploy.

For more information about how to use WDeploy and its commands, see the “WDeploy” section in this guide or in the *Installation Guide for UNIX*.

## Missing Data Services icon on the Central Management Console (CMC)


After you install and reboot Data Services, some of you may notice that the Data Services icon on Central Management Console is missing.

To resolve this issue, go back through the installation and remove trailing spaces from the CMS name.

## Broken Data Services links on the Central Management Console (CMC)

You may find broken Data Services links on the Central Management Console (CMC) if one of the following is true:

- The Business Intelligence platform (BIP) or IPS install was copied to a server where Data Services was never and will not ever be installed from a BIP or IPS server that had Data Services objects installed.
- Data Services was uninstalled from the environment and broken links remain

For information about how to fix this issue, see [SAP Note 1774228](#) 

## Cleansing Package installation tips

The Cleansing Package files that Data Services needs are now installed by the SAP Data Quality Management Cleansing Packages installer. In the past, you had to load the predefined, shipped cleansing packages into the Data Services repository.

These cleansing packages are stored in the Information platform services or Business Intelligence platform as InfoObjects.

### Note

You need to point to your IPS instance during the cleansing package installation.

To verify that the cleansing packages were installed correctly, do the following:

1. Open the Data Cleanse transform within Data Services.
2. In the *Transform Configuration Editor* window, click the *Option* tab.
3. Expand the *Cleansing Package* option and make sure the desired cleansing packages are available.

## Special character(s) in install path

Using special characters in an installation path causes pre\_requisite checks to fail. For example, the brackets in D : \[install] \ would cause a check to fail.

Remove special characters from path names to resolve this issue.

## Incorrect message displayed at the end of a UNIX installation

The message displayed at the end of a UNIX installation (including uninstallation) may be incorrect. The message should tell you to press [Enter](#), not to click [Finish](#).

## Error regarding Linux/UNIX install directory on NSF file system



On Linux/UNIX, you may get an error during installation saying the installation directory should not be in the Network Shared Folders (NFS) file system. To resolve this issue and to get better run-time performance, run the installation on a physical drive.

## 5.11 Making changes to your Data Services system

### 5.11.1 To modify your Data Services system

These instructions describe the process to modify your Data Services system by adding or removing installed components through the Windows Control Panel.

It is recommended that you back up the CMS system database and your repository databases before uninstalling Data Services.

1. If you're using a newer Windows operating system, such as Windows Server 2008, go to: ► [Start](#) ► [Control Panel](#) ► [Programs and Features](#) .  
If you're using an older Windows operating system, such as Windows Server 2003, go to: ► [Start](#) ► [Control Panel](#) ► [Add or Remove Programs](#) .
2. Select SAP Data Services [<x.x>](#) and click [Change/Remove](#).  
The [Application Maintenance](#) screen appears.
3. Select [Modify](#) and click [Next](#).
4. Enter the password for the Central Management Server (CMS) Administrator user and click [Next](#).
5. Select any features you want to install; unselect any features you want to remove.

#### Note

The Data Services installation program will only remove the SAP-supplied person and firm cleansing package if it has not been modified. If the cleansing package has been modified, you must delete it manually using the Central Management Console (CMC).

6. Click [Next](#) to apply your changes.  
The setup program applies your changes and returns to the Control Panel applet.

The installation has been updated.

## 5.11.2 To repair your Data Services system

These instructions describe the process to repair your Data Services system from the Windows Control Panel. This process restores the files originally installed by the installation program.

It is recommended that you back up the CMS database and your repository databases before you uninstall Data Services.

1. If you're using a newer Windows operating system, such as Windows Server 2008, go to: ► [Start](#) ► [Control Panel](#) ► [Programs and Features](#) .

If you're using an older Windows operating system, such as Windows Server 2003, go to: ► [Start](#) ► [Control Panel](#) ► [Add or Remove Programs](#) .

2. Select SAP Data Services <x.x> and click [Change/Remove](#).  
The [Application Maintenance](#) screen appears.
3. Select [Repair](#) and click [Next](#).  
The software is restored to its original configuration. This may take a long time. When complete, the Control Panel appears.

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

## 5.11.3 To remove SAP Data Services

These instructions describe the process to permanently uninstall Data Services from a host system.

### Note

The Data Services installation program will only remove the SAP-supplied person and firm cleansing package if it has not been modified. If the cleansing package has been modified, you must delete it manually using the Central Management Console (CMC).

It is recommended that you back up the CMS database and your repository databases before uninstalling Data Services.

1. If you're using a newer Windows operating system, such as Windows Server 2008, go to: ► [Start](#) ► [Control Panel](#) ► [Programs and Features](#) .

If you're using an older Windows operating system, such as Windows Server 2003, go to: ► [Start](#) ► [Control Panel](#) ► [Add or Remove Programs](#) .

2. Select SAP Data Services <x.x> .
3. On newer Windows operating systems, select [Uninstall](#).  
On older Windows operating systems, select [Change/Remove](#).
4. Select [Remove](#) and click [Next](#).
5. Enter the password for the Central Management Server (CMS) Administrator user and click [Next](#).
6. Click through to confirm the removal.
7. Select [Finish](#) to close the [System Setup](#) screen.

The software has been removed from the host system.

## 5.11.4 To run a silent uninstallation

A silent mode installation is a command-line installation that does not prompt for installation options. Installation options must be provided on the command-line or in a response file. Any installation options not provided on the command-line or in a response file will be left at their default values.

### **i** Note

The Data Services installation program will only remove the SAP-supplied person and firm cleansing package if it has not been modified. If the cleansing package has been modified, you must delete it manually using the Central Management Console (CMC).

It is recommended that you back up the CMS database and your repository databases before uninstalling Data Services.

To run a silent uninstallation:

1. Change to the directory containing the `setup.exe` installation program, for example, `C:\Program Files (x86)\SAP BusinessObjects`.
2. To create a response file that will be used to run the uninstallation, run the command `setup.exe -w <response file path>\<response file name> -i product.dataservices64-4.0-core-32`. Data Services will go into maintenance mode.
3. Select Remove from the menu and follow the options included in the wizard.
4. Open the response file and change the password from `<*****>` to your Data Services password.
5. Run the command `setup.exe -r <response file path>\<response file name> -i product.dataservices64-4.0-core-32`.

## 5.11.5 To install new or additional features (Windows)

Modify the newly-installed version of SAP Information Steward by adding or removing installed components through the Windows Control Panel.

Before performing these steps, backup your Information Steward repository before modifying or uninstalling Information Steward.

1. Find where the application is installed.
  - When using a newer Windows operating system, such as Windows Server 2008, go to: **Start** > **Control Panel** > **Programs and Features**.
  - When using an older Windows operating system, such as Windows Server 2003, go to: **Start** > **Control Panel** > **Add or Remove Programs**.
2. Select the SAP application, and then click **Change/Remove** or **Uninstall/Change**. The **Application Maintenance** window appears.
3. Select **Modify**, and then click **Next**.
4. Enter the password for the Central Management Server (CMS) administrator user, and then click **Next**.
5. Select any features you want to install.

- 
6. Click [Next](#) to apply your changes.

The setup program applies your changes and returns to the [Control Panel](#) window. The installation has been updated.

## 6 Additional Information

### 6.1 Directory data

To correct addresses and assign codes with SAP Data Services, the Global Address Cleanse, USA Regulatory Address Cleanse, and Geocoder transforms rely on directories, or databases. When transforms use the directories, it's similar to the way that you use the telephone directory. A telephone directory is a large table in which you look up something you know—someone's name—and locate something that you don't know—their phone number.

#### 6.1.1 Directory listing and update schedule

For detailed information about directories, see the latest directories update on the SAP Help Portal. To do this, go to <http://help.sap.com/bods>. Select **All Products** > **English**, and then in the drop-down list, select **Addressing Directories**.

Table 2: All World

Lastline data for over 200 countries.

Package name	Directory filename	Approximate size	Updated
			Monthly (M) Quarterly (Q)
SAP ADDR DIR ALL WORLD	ga_all_world_gen.dir	3.1 GB	M

Table 3: Australia

Package name	Directory filename	Approximate size	Updated
			Monthly (M) Quarterly (Q)
SAP ADDR DIR AUSTRALIA	ga_au_paf.dir	4.3 GB	M

Table 4: Canada

Package name	Directory filename	Approximate size	Updated Monthly (M) Quarterly (Q)
SAP ADDR DIR CANADA	<i>POC address data:</i> canadapoc.dir cancitypoc.dir canfsapoc.dir canpcipoc.dir canpcm.dir  <i>Non-POC address data:</i> canada.dir cancity.dir canfsa.dir canpci.dir	122 MB	M

Table 5: Geocoder

Package name	Directory filename	Approximate size	Updated Monthly (M) Quarterly (Q)
SAP GEOPARC AUSTRALIA - NAVTEQ (Parcel)	geo_au_nt.dir	5.3 GB	Q
SAP GEO DIR CANADA - NAVTEQ	geo_ca_nt.dir	3.7 GB	Q
SAP GEO DIR FRANCE - NAVTEQ	geo_fr_nt.dir	8.8 GB	Q
SAP GEO DIR GERMANY - NAVTEQ	geo_de_nt.dir	5.7 GB	Q
SAP GEO DIR SWITZERLAND - NAVTEQ	geo_ch_nt.dir	589 MB	Q
SAP GEO DIR UK - NAVTEQ	geo_gb_nt.dir	3 GB	Q

Package name	Directory filename	Approximate size	Updated Monthly (M) Quarterly (Q)
SAP GEO DIR US - NAV- TEQ	AdvancedGeoFea- tures.ZIP (Includes geo_us_nt.dir and ba- sic_geo_us_nt.dir)  geo_us_nt.dir ageo*.dir cgeo2.dir	13.6 GB  532 KB 3.2 GB 780 MB	Q
SAP GEO PARCEL US - NAVTEQ	AdvancedGeoFea- tures.ZIP (Includes geo_us_nt.dir and ba- sic_geo_us_nt.dir)  geo_us_nt.dir ageo*.dir ageo*_pt.dir cgeo2.dir	20 GB  532 KB 3.2 GB 2.85 GB 780 MB	Q
SAP ADDR GEO US - TOM- TOM  (Address-Level GeoCen- sus)	ageo*.dir  geo_us_nt.dir	5.26 GB  532 KB	Q
SAP CENT GEO US - TOM- TOM  (Centroid-Level GeoCen- sus)	cgeo2.dir  geo_us_nt.dir	758 MB  532 KB	Q
SAP GEO DIR AUSTRIA - TOMTOM	geo_at_tt.dir	1.2 GB	Q
SAP GEO DIR BELGIUM - TOMTOM	geo_be_tt.dir	917 MB	Q
SAP GEO DIR DENMARK - TOMTOM	geo_dk_tt.dir	780 MB	Q
SAP GEO DIR FINLAND - TOMTOM	geo_fi_tt.dir	1.2 GB	Q
SAP GEO DIR ITALY - TOMTOM	geo_it_tt.dir	5.8 GB	Q

Package name	Directory filename	Approximate size	Updated Monthly (M) Quarterly (Q)
SAP GEO DIR NETHERLANDS - TOMTOM	geo_nl_tt.dir	1.3 GB	Q
SAP GEO DIR NORWAY - TOMTOM	geo_no_tt.dir	761 MB	Q
SAP GEO DIR PORTUGAL - TOMTOM	geo_pt_tt.dir	912 MB	Q
SAP GEO DIR SPAIN (PARC) - TOMTOM	geo_es_tt.dir	5.27 GB	Q
SAP GEO DIR SWEDEN - TOMTOM	geo_se.tt.dir	747 MB	Q

**Table 6: International**

**i Note**

You will receive files only for those countries that your company has purchased.

Package name	Directory filename	Approximate size	Updated Monthly (M) Quarterly (Q)
SAP ADDR DIR AUSTRIA	ga_at_paf.dir	936 MB	Q
SAP ADDR DIR BELGIUM	ga_be_paf.dir	181 MB	Q
SAP ADDR DIR BRAZIL	ga_br_gen.dir	677 MB	Q
SAP ADDR DIR BULGARIA	ga_bg_paf.dir	5 MB	Q
SAP ADDR DIR CHINA	ga_cn_paf.dir	2.0 GB	Q
SAP ADDR DIR CZECH REPUBLIC	ga_cz_paf.dir	294 MB	Q
SAP ADDR DIR DENMARK	ga_dk_paf.dir	137 MB	Q
SAP ADDR DIR ESTONIA	ga_ee_paf.dir	18 MB	Q
SAP ADDR DIR FINLAND	ga_fi_paf.dir	253 MB	Q
SAP ADDR DIR FRANCE	ga_fr_paf.dir	2.4 GB	Q
SAP ADDR DIR GERMANY	ga_de_paf.dir	2.4 GB	Q

Package name	Directory filename	Approximate size	Updated Monthly (M) Quarterly (Q)
SAP ADDR DIR GREECE	ga_gr_paf.dir	88 MB	Q
SAP ADDR DIR HUNGARY	ga_hu_paf.dir	18 MB	Q
SAP ADDR DIR INDIA	ga_in_paf.dir	1.8 GB	Q
SAP ADDR DIR ITALY	ga_it_paf.dir	1.3 GB	Q
SAP ADDR DIR JAPAN	ga_jp_paf.dir	1.1 GB	Q
SAP ADDR DIR LATVIA	ga_lv_paf.dir	10 MB	Q
SAP ADDR DIR LITHUANIA	ga_lt_paf.dir	175 MB	Q
SAP ADDR DIR LUXEMBURG	ga_lu_paf.dir	11 MB	Q
SAP ADDR DIR MEXICO	ga_mx_paf.dir	2.1 GB	Q
SAP ADDR DIR NEW ZEALAND	ga_nz_paf.dir	993 MB	Q
SAP ADDR DIR NORWAY	ga_no_paf.dir	69 MB	Q
SAP ADDR DIR POLAND	ga_pl_paf.dir	302 MB	Q
SAP ADDR DIR PORTUGAL	ga_pt_paf.dir	349 MB	Q
SAP ADDR DIR RUSSIA	ga_ru_paf.dir	2.1 GB	Q
SAP ADDR DIR SLOVAKIA	ga_sk_paf.dir	12 MB	Q
SAP ADDR DIR SPAIN	ga_es_paf.dir	1.2 GB	Q
SAP ADDR DIR SWEDEN	ga_se_paf.dir	524 MB	Q
SAP ADDR DIR SWITZERLAND	ga_ch_paf.dir	508 MB	Q
SAP ADDR DIR TURKEY	ga_tr_paf.dir	139 MB	Q
SAP ADDR DIR UNITED KINGDOM	ga_gb_paf.dir	11 GB	Q

Table 7: Netherlands

Package name	Directory filename	Approximate size	Updated Monthly (M) Quarterly (Q)
SAP ADDR DIR NETHERLANDS	ga_nl_paf.dir	403 MB	M

Table 8: U.S.

Package name	Directory filename	Approximate size	Updated Monthly (M) Quarterly (Q)
SAP ADDR DIR US (US National ZIP+4 and eLOT 2009 - Current formats)	<i>ZIP4:</i>		M
	cityxx.dir	2 MB	
	revzip4.dir	1 MB	
	zcfxx.dir	2 MB	
	zip4us.dir	2 MB	
	zip4us.rev	800 MB	
	zip4us.shs	93 MB	
		4 MB	
	<i>Enhanced Line of Travel (eLOT) Directory:</i>	546 MB	
	elot.dir		
SAP ADDR DIR US - DPV (Delivery Point Validation)	All files	690 MB	M
Early Warning System (EWS) Directory	ewyymdd.dir	1 MB	
SAP ADDR DIR US - LAC-SLINK (Locatable Address Conversion System)	All files	460 MB	M
SAP ADDR DIR US - RDI (Residential Delivery Indicator)	rts.hs11	8.2 MB	M
	rts.hs9	16.4 MB	
SAP ADDR DIR US - SUI-TELINK	All files	1 GB	M

Package name	Directory filename	Approximate size	Updated
			Monthly (M)
			Quarterly (Q)
SAP ADDR DIR US - Z4CHANGE	z4change.dir	203 MB	M

## 6.1.2 Directory summary report

The directory summary report provides information about the contents of the directories. The report is included in the directory package, if available, and has the file name `dir_summary_report_<mmmy>.html`.

## 6.1.3 U.S. directory expiration

We publish and distribute the ZIP4 and supporting directory files under a non-exclusive license from the USPS. The USPS requires that our software disables itself when a user attempts to use expired directories.

If you do not install new directories as you receive them, the software issues a warning in the log files when the directories are due to expire within 30 days. To ensure that your projects are based on up-to-date directory data, it's recommended that you heed the warning and install the latest directories.

### **i** Note

Incompatible or out-of-date directories can render the software unusable. The directories are lookup files used by SAP software. The system administrator must install monthly or bimonthly directory updates to ensure that they are compatible with the current software.

## Expiration schedule

You can choose to receive updated U.S. national directories on a monthly or bimonthly basis. Bimonthly updates are distributed during the even months. Directory expiration guidelines are:

- ZIP4 and Auxiliary, DPV, eLOT, and Z4Change Directories expire on the first day of the fourth month after directory creation. When running in non-certified mode, ZIP4 and Auxiliary, DPV, eLOT, and Z4Change directories expire on the first day of the fourteenth month after directory creation.
- LACSLink directories expire 105 days after directory creation.
- SuiteLink directories expire on the first day of the third month after directory creation.

### 6.1.3.1 U.S. National and Auxiliary files

The U.S. National and Auxiliary file self-extracting files are named as follows.

Directory name	Zip file name
2004-2008 U.S. National directory	us_dirs_2004.exe
U.S. Address-level GeoCensus	us_ageo1_2.exe us_ageo3_4.exe us_ageo5_6.exe us_ageo7_8.exe us_ageo9_10.exe
U.S. Centroid-level GeoCensus	us_cgeo.exe us_cgeo1.exe us_cgeo2.exe

### Related Information

[To unzip directory files](#) [page 82]

### 6.1.4 International directory expiration

Incompatible or out-of-date directories can render the software unusable. The directories are lookup files used by SAP software. The system administrator must install monthly or quarterly directory updates to ensure that they are compatible with the current software.

### Expiration schedule

Directory	Directory access regulations
Australia	In certified mode, the directories expire 3 months after the directory creation date.  In non-certified mode, the directories expire 15 months after the directory creation date.
Canada	In certified mode, the POC directories are valid for 30 days. In order to qualify for the mailing discount, users must run the software with the same-month POC address directory. The POC address data can only be used in certified mode.

Directory	Directory access regulations
	In non-certified mode, the regular address directories do not expire.
New Zealand	In certified mode, the directories expire 6 months after the directory creation date. In non-certified mode, directory expiration is not enforced.
International	Directory files do not expire.

## 6.1.5 Where to copy directories

We recommend that you install the directory files in a common file system directory local to the host system on which SAP Data Services is installed. By default, the software looks for directories in `<DS_COMMON_DIR>\DataQuality\reference_data`. If you place your directories in a different location, you must update your substitution file.

### Note

If you use both NAVTEQ and TomTom directories, make sure that you install them in separate locations.

### 6.1.5.1 To copy international directory files to a non-default location

If you use the Global Address Cleanse transform's Global Address engine or Global Suggestion Lists' Global Address engine and store your data directories in a location other than the default (`<DS_COMMON_DIR>\DataQuality\reference_data`), do the following:

1. Stop any data flows that use the Global Address engine or Global Suggestion Lists.
2. Copy the following files from `<DS_COMMON_DIR>\DataQuality\reference_data` to the location where you store your data directories:
  - `ga_directory_db.xml`
  - `ga_country.dir`
  - `ga_locality.dir`
  - `ga_region.dir`

### Note

Every time you install an SAP Data Services software update, copy the reference files from the default location to where you store your directories.

### Note

Copy the reference files over to the location where you store your data directories before you install the new directories.

3. Update the `RefFilesAddressCleanse` substitution parameter configuration to the new reference directory location.

## 6.1.6 To install and set up SAP Download Manager

Before you can download directory files, you need to install and set up SAP Download Manager.

To install and set up SAP Download Manager:

1. Access the SAP Service Marketplace (SMP): <http://service.sap.com/bosap-support>
2. Select [Downloads](#).
3. Select [Download Basket](#).
4. Click the [Get Download Manager](#) button.
5. Follow the steps to install and set up the SAP Download Manager.

## 6.1.7 To download directory files

The directories are available for download from the SAP Service Marketplace (SMP).

To download directories:

1. Access <https://service.sap.com/sbop-directories> on the SAP Service Marketplace (SMP) and sign in with your S-User ID and password.
2. Click [Installation and Upgrade](#).
3. Click the first item that you want to download (for example, SAP ADDR DIR <country>).
4. Click the appropriate directory format for the version of software that you use (for example, SAP ADDR <country> 4.x).
5. Click [Installation](#) to display the Downloads page.
6. Click the check box to the left of the item or items that you want to install.
7. Click [Add to Download Basket](#).  
The files you select are placed in the Download Basket.

### Note

To automate the process of identifying new directories and adding them to your Download Basket, use the Directory Update Assistant that is installed with Data Services.

8. To add more directories to the Download Basket, click the Address Directories link above the Downloads section.
9. Follow steps 3-7 for each directory as needed.
10. Click [Maintain Download Basket](#) to start the download process.

## 6.1.8 Using the Directory Update Assistant

The Directory Update Assistant helps you identify the directories that can be updated and automatically adds them to your Download Basket on the SAP Service Marketplace. The utility is installed with SAP Data Services.

1. Run the Directory Update Assistant batch file in the command prompt.
  - On UNIX, the default location and file name is `<DS_COMMON_DIR>/DataQuality/DirectoryUpdateAssistant/dir_update.sh`.
  - On Windows, the default location and file name is `<DS_COMMON_DIR>\DataQuality\DirectoryUpdateAssistant\dir_update.bat`.

On Windows, you can alternatively run the `dir_update_wizard.bat` file, which guides you through a series of prompts.

2. The first time that you run the batch file, you must enter the parameters. The Directory Update Assistant securely stores the parameter values so that you do not need to enter them on subsequent executions.

Example:

```
dir_update.bat -smpuser <userid> -smpass <password> -proxyhost <proxyhostname> -  
proxyport <portnumber>
```

The following table describes the available command parameters.

Parameter	Description
-smpuser	The SAP Service Marketplace user ID.
-smpass	The SAP Service Marketplace password. <div><b>i Note</b> On UNIX, if your password contains a backslash (\), enter the parameter value as a double backslash (\%).</div>
-proxyhost	The optional proxy host address.
-proxyport	The optional proxy port number.
-proxyuser	The optional proxy user ID.
-proxypass	The optional proxy password. <div><b>i Note</b> On UNIX, if your password contains a backslash (\), enter the parameter value as a double backslash (\%).</div>
-output	The output file path and file name.

The Directory Update Assistant identifies the latest downloadable directories from the current month and two previous months. It keeps track of directories that you have already added to the basket and adds only new directories to your Download Basket.

The command line displays the results of the execution, including the months searched, whether a proxy was used, and a list of each directory that was added to the Download Basket. The utility indicates when the processing is complete.

3. Use the SAP Download Manager to download the directories from the SAP Service Marketplace.

To further automate the directory download process, you can schedule future downloads.

- To schedule a one-time download, use the SAP Download Manager Scheduler. The SAP Download Manager must remain running until after the download is complete.
- To schedule a regular directory download, use a tool such as the Windows Task Scheduler.

## 6.1.9 To unzip directory files

The steps listed here describe how to install the directory files.

1. Locate and double-click the `<filename>.zip`.
2. Browse to the folder where you want WinRAR to place the directory files and click [Install](#).
3. Repeat for each required file.

## 6.2 Citrix Support

You can set up SAP Data Services to run under Citrix Presentation Server. Presentation Server provides an access infrastructure for enterprise applications.

Presentation Server supports many methods of running applications. This section provides information about how to install one copy of a Data Services component, run it as a Presentation Server-published application or published desktop on a server, and set client user permissions for it.

### Definitions

The following definitions introduce basic Citrix concepts. To learn more about Citrix Presentation Server, see Citrix Presentation Server documentation.

Concept	Description
ICA Client	A Citrix-defined protocol/connection to a server. The ICA client connection allows Presentation Server to run any application on its server and manage how each client accesses the user interface of the application.
Program Neighborhood	The Presentation Server component installed on a client. It manages ICA client connections and published applications for a given user.

Concept	Description
Published Application	Application software (for example, the Designer) installed on a Presentation Server server and published to users. An administrator can choose which users may run and view the application.
Application Set	A set of all published applications that a user can access. When you start your Program Neighborhood software, you see this application set, which can include multiple applications published on multiple Presentation Servers.

## 6.2.1 Installing the software

User interfaces for SAP Data Services are certified to run on Citrix Presentation Server as an application set. The set consists of:

- Designer (includes the Metadata Reporting tool)
- Management Console
- License Manager
- Repository Manager
- Locale Selector
- Server Manager
- Documentation Components

### 6.2.1.1 Initial installation

The installation process for SAP Data Services on Presentation Server is slightly different from a typical installation. The Presentation Server runs Microsoft terminal services in application mode. Therefore, you must install the software using the Add/Remove programs service in the Windows control panel.

To install the software, follow the prompts of the Add/Remove program wizard and use the file browser of the wizard to run `setup.exe` from the install CD (or network directory). It's recommended that you install the Designer and the Job Server on separate host systems.

After you install Job Servers and Access Servers, you must provide connection settings to users because their remote setups will look for the servers locally by default. Similarly, manage sources, targets, and repositories from the Presentation Server in the usual fashion. However, individual clients must use database connection names defined on the server (not the local client). The Designer defaults to looking for configuration information locally. For example, to connect to an Oracle repository, define the Oracle connection name on the Presentation Server and provide the connection information to your users.

#### **i** Note

Because Citrix Presentation Server is running on a server, be aware that after you install the software for the first time, you must reboot the server.

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## Related Information

[Limitations](#) [page 89]

### 6.2.2 Running components in multi-user mode

While Presentation Server allows you to publish SAP Data Services interface components to one user or multiple users at the same time, it's recommended that you run all but the Designer, Management Console, and Locale Selector in serial mode.

#### 6.2.2.1 Serial access to the License, Server, and Repository Managers

It is safest to allow only one user at a time to access the License Manager, Repository Manager, and Server Manager. In most cases, this restriction will not be a problem, because users typically do not access these components often. To set these components for serial access, use Presentation Server to configure their application limit to one instance per server.

#### 6.2.2.2 Parallel access to the Management Console, Locale Selector, and Designer

Use Presentation Server to configure the Management Console, Locale Selector, and Designer to run any number of instances in parallel per server.

When you configure the Management Console, simply publish it as content. However, when you configure the Locale Selector and Designer, you also must limit the application to one instance per user and ensure that your configuration preserves user settings. A DOS shell script is provided to accomplish this for each application.

## Related Information

[Publishing the software](#) [page 86]

#### 6.2.2.3 Using batch files to access the Locale Selector and Designer

When you install SAP Data Services, the `LINK_DIR` environment variable is set to point to the install directory. This variable allows the software to locate settings and persistent environment information.

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Because only one `LINK_DIR` variable exists per installation, when multiple users run a single Designer or Locale Selector installation (in serial or parallel), all instances access the same path from the `LINK_DIR` variable. The result is that the users will change each other's settings.

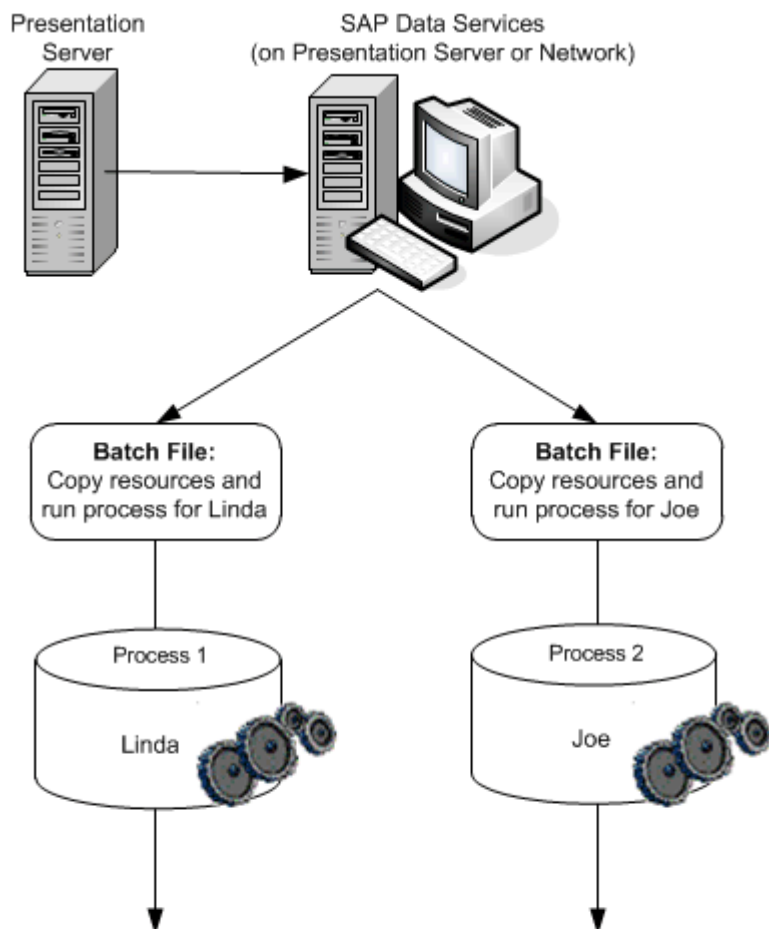
To solve this problem for Citrix, you can use batch scripts to provide each user with their own copy of required resource files and to create a new environment variable (`USER_LINK_DIR`) that directs the Locale Selector or Designer to the user-specific resource copy.

The batch script for the Designer is `RunDSDesignerMU.bat`, and the batch script for the Locale Selector is `RunLocaleSelectorMU.bat`. By default, both scripts are installed to the `<LINK_DIR>\bin` directory.

#### **i** Note

By default, the scripts create user-specific resource directories in `C:\Users`. You can specify a different path by using an argument when running the script. For example: `RunDSDesignerMU D:\UserData`

The following diagram shows how the scripts enable multiple processes to run on a single host system by creating user-specific resource directories:



Process 1 – Linda (Locale Selector)	Process 2 – Joe (Designer)
LINK_DIR= C:\Program Files\SAP\Data Services	LINK_DIR= C:\Program Files\SAP\Data Services
USER_LINK_DIR= C:\Users\Linda	USER_LINK_DIR= C:\Users\Joe
Locale Selector resource directory C:\Users\Linda	Designer resource directory C:\Users\Joe

### ⚠ Restriction

The batch scripts enable multiple users to run the same Data Services component concurrently from a Citrix Presentation Server. However, the scripts do not allow a single user to run both the Designer and Locale Selector concurrently. The provided batch scripts do not allow a user to open one component when the other is currently running.

## 6.2.3 Publishing the software

After you install SAP Data Services, you can set up its user interface components as Published Applications to make them available to clients. The Presentation Server Management console includes a wizard to help you do

this. Run it once for each component (Designer, Management Console, Repository Manager, Server Manager, Locale Selector, and License Manager). You must publish each component separately.

### 6.2.3.1 To publish a component

1. Start the Citrix Presentation Server Management console.
2. Select *Applications* from the menu tree and choose *Publish Application* from the menu.
3. On the *Specify What to Publish* page, configure each component.
  - a) Publish the Designer and Locale Selector .bat files instead of directly publishing the executables.
  - b) To allow for spaces in the install path name, use quotes around any variable that includes a directory name.

Component	Publish as	Command line	Working directory	Content address
Designer	Application	RunDSDesignerMU .bat	C:	
Repository Manager	Application	RepoMan.exe	"\$LINK_DIR"\bin	
Server Manager	Application	AWServerConfig. exe	"\$LINK_DIR"\bin	
License Manager (optional)	Application	LicenseManager. exe	"\$LINK_DIR"\bin	
Management Console	Content			"\$LINK_DIR"/ext / DataServices.ht ml
Locale Selector	Application	RunLocaleSelect orMU.bat	C:	

#### Note

After using Presentation Server to configure the Management Console as content, share the `ext` directory with all Management Console users.

The Publish Application Wizard allows you to enter a file name for the start icon used by applications published as content. For the Management Console, enter the path to `Admin_small.ico` if you want users to have access to the icon. Note that Designer components run as a shortcut on the client desktop.

4. Define the Program Neighborhood settings:

Setting	Description
Application Appearance	Choose 256 colors at minimum. Lower resolution settings may work but will not allow users to easily distinguish icons and object bitmaps. Program Neighborhood provides an option to maximize any application at startup. It is recommended that you do not maximize the Designer at startup because older versions of the Designer might fail.

Setting	Description
ICA Client Requirements	It's recommended that you use only the basic security level option in Program Neighborhood. Higher levels of security may work but have not been tested.
Application Limits	<p>The Designer, Locale Selector, Repository Manager, Server Manager, and License Manager were not designed to be run by multiple users at the same time. However, Citrix will allow several instances of these programs to be active at the same time on the same server. It's recommended that you set the maximum number of instances for the Repository Manager, Server Manager, and License Manager executables to 1.</p> <p>For the Designer and Locale Selector, you can allow multiple instances of the .bat file to run, but limit one instance of each .bat file per user.</p> <p>Since the Management Console is published as content, you can run multiple instances of it.</p>
Specify Servers	You can specify which servers in a Presentation Server server farm will run an application for client users. Select the server on which you installed Data Services for this purpose. If you installed the software on several servers, publish only one.
Specify Users	You can specify which users can access a particular application. If you specify three users, the component defined by the application appears in the Program Neighborhood of each user.

## 6.2.3.2 Connection management

After installing SAP Data Services components, give each user permission to establish an ICA connection with the Presentation Server. Run the Citrix Connection Configuration tool to assign user permissions to a connection.

## 6.2.3.3 Client setup

If users will be running SAP Data Services components from client computers, install the Citrix Program Neighborhood software on these computers.

### **i** Note

The software components were tested as a Citrix Program Neighborhood application set. These components were not tested as a Program Neighborhood agent or web interface.

## Related Information

[Initial installation](#) [page 83]

### 6.2.4 Limitations

The following are known limitations to running SAP Data Services on Citrix:

- The software stores files in the Job Server's log directory when you capture sample data using the View Data feature. If the Designer runs on the same host system as the Job Server, the default location of the log directory changes each time a user logs in through Citrix. This change prevents the Designer from locating the View Data log files for a given user. To avoid this issue, it's recommended that you run the Job Server on a different host system than the Designer. This limitation does not apply to the interactive debugger.
- If the Server Manager is published to a Citrix client and you try to add a Job Server from the client, the Data Services service might not start. If this occurs, log on to the Job Server's host system and restart the service. You must have sufficient user privileges to restart a service using the host system's operating system. When the service is installed, it uses the as its default login values ID and password that belong to the user who runs the installer.
- Citrix runs the Designer process on the server and publishes only its user interface to the client. Since the Designer runs on the server, users must have sufficient read/write permissions for directories or files on the server if you want them to access a file on the server as part of a Designer job.
- If registry popup windows appear when users attempt to start the Designer, then either give user accounts authority to query registry keys on the server or give users administrator authority on the server.

## 6.3 WDeploy

WDeploy is installed as a part of SAP BusinessObjects Enterprise to aid in the deployment of web applications to Java-based web application servers.

The WDeploy tool provides a graphical method of running the `wdeploy deployall` or `wdeploy undeployall` commands. To perform other deployment operations, such as deploying one web component at a time, use the command-line version of WDeploy.

The WDeploy GUI defaults to an English interface, but prompts the user to choose a language if any language packs are installed and the tool is run for the first time. The following language packs are supported:

- Czech
- Simplified Chinese
- Traditional Chinese
- Danish
- Dutch
- English
- Finnish
- French

- German
- Italian
- Japanese
- Korean
- Norwegian Bokmal
- Polish
- Portuguese
- Russian
- Spanish
- Swedish
- Thai

## Related Information

[WDeploy prerequisites](#) [page 90]

[To run WDeploy from the command line](#) [page 92]

### 6.3.1 WDeploy prerequisites

To use the WDeploy GUI tool, ensure that the following requirements are met:

- When using WebSphere 6 or WebSphere 7 with a non-default profile name (a profile name that isn't set to AppSrv01), manually update the `as_profile_name` parameter in the `config.websphereX` configuration file before launching the WDeploy GUI tool.

For example:

1. Update `as_profile_name` in `config.websphereX`.
2. Launch the WDeploy GUI tool.
3. Select "WebSphere 6" or "WebSphere 7" and provide all parameters.
4. Perform the deployment.

For information on giving the profile name with the WDeploy command-line tool, see WebSphere 6 or 7 configuration file.

- Set the `JAVA_HOME` environment variable to the desired JDK folder. For example, `JAVA_HOME` may be set to:

`<BIP_INSTALL_DIR>\java`

Or:

`<BIP_INSTALL_DIR>\win64_x64\jdk`

- Ensure that the host system has a minimum of 5 GB of free space available in `\temp` for the deployment of web applications. You cannot use the `TEMP` environment variable to define a location other than `\temp`.
- Ensure that the web application server host system has at least 15 GB of free hard disk space before attempting to deploy web applications.
- Ensure that the host system has at least 4 GB of RAM. When using SAP NetWeaver AS Java 7.2, ensure that the host system has at least 8 GB of RAM.

- Ensure that the host web application server minimum heap size (-Xms), maximum heap size (-Xmx), and Permanent Generation (-XX:MaxPermSize) settings are configured. For example:  
`JAVA_OPTS=-Xms128m -Xmx1024m -XX:MaxPermSize=512`

#### **i** Note

For SAP NetWeaver AS 7.2, ensure that the maximum heap size is at least 2048 megabytes:

```
JAVA_OPTS=-Xms128m -Xmx2048m -XX:MaxPermSize=512
```

## 6.3.2 To start WDeploy

Run the WDeploy GUI tool by selecting **Start > Programs > SAP BusinessObjects BI platform 4 > SAP BusinessObjects BI platform > WDeploy**. It can also be started by running `<BIP_INSTALL_DIR>\wdeploy\wdeployGUI.bat`.

#### **i** Note

If you are using SAP BusinessObjects Information platform services instead of SAP BusinessObjects Business Intelligence platform, WDeploy is found in the Information platform services program group.

When the WDeploy GUI tool is run for the first time, it prompts for which language to use for displaying information in the user interface. Select a language and continue.

## 6.3.3 To deploy or undeploy components

The WDeploy GUI tool allows users to deploy and undeploy all web applications to a web application server. Any web applications not deployed by the SAP BusinessObjects Enterprise installation program or WDeploy tool will be unaffected.

#### **i** Note

Not all web applications are deployed automatically. Web applications that are not deployed automatically must be deployed with the WDeploy command-line tool or with the web application server administrative console.

1. Select one of the following actions:
  - Deploy all available SAP Web Applications to the server
  - Undeploy all available SAP Web Applications from the server
2. Select a supported web application server from the *Select Web Application Server Type* drop-down. Before deploying or undeploying web applications to a web application server, ensure that the WDeploy web application server configuration file (`config.<WEB_APP_SERVER>`) is correctly configured.
3. When a web application server is selected, review the information in the *Web Application Server Information* section and the *Application Server Domain Root Directory* section to ensure that it is correct for your web application server.

4. For more advanced options, select [Options](#).

## 6.3.4 Advanced options

The WDeploy GUI tool Options screen allows you to select custom folders to use for the deployment of web applications.

Option	Description
<a href="#">Select WDeploy work directory</a>	Select the folder in which WDeploy manipulates the web applications WAR or EAR archives (for example, to split static and dynamic content in a web application). This folder stores the results of the wdeploy predeploy action, and stores data required to undeploy web applications.  Example value: <code>&lt;BIP_INSTALL_DIR&gt;\wdeploy\workdir</code>
<a href="#">Select Source location of web applications:</a> <a href="#">Web application source tree location</a>	The location of source used to create WAR or EAR  Example value: <code>&lt;BIP_INSTALL_DIR&gt;\warfiles\webapps</code>
<a href="#">Select Source location of web applications:</a> <a href="#">Generic WAR files location</a>	The location of source content used to create the generic WAR files.  Example value: <code>&lt;BIP_INSTALL_DIR&gt;\java\applications</code>
<a href="#">Web applications root context</a>	Select the web application root context path to which all web applications are deployed.  Example value: <code>\BOE</code>

### Note

Non-English characters in paths are not valid in the WDeploy GUI tool.

## 6.3.5 To run WDeploy from the command line

Use the wdeploy command-line tool to deploy the Data Services web application components to a web application server and perform other advanced deployment functions unavailable in the GUI tool. There are several web components available to deploy:

- DataServices
- Doc
- Webservice

By default, the wdeploy tool and the web components are installed to the following locations during the SAP Business Objects Enterprise installation:

- wdeploy:  
`<BIP_INSTALL_DIR>\wdeploy`
- web components:  
`<BIP_INSTALL_DIR>\warfiles\webapps`

## Syntax

```
wdeploy <server_type> [-Das_admin_password=<password>] [-DAPP=
<app_name>] <command>
```

Parameter	Description
<server_type>	<p>Specifies the type of the web application server.</p> <p>Available values for &lt;server_type&gt; include:</p> <ul style="list-style-type: none"> <li>• jboss5</li> <li>• sapappsvr72</li> <li>• tomcat55</li> <li>• tomcat6</li> <li>• weblogic9</li> <li>• weblogic10</li> <li>• websphere6</li> <li>• websphere7</li> </ul>
-Das_admin_password=<password>	<p>Specifies the administrator password to use to deploy the application.</p> <div> <p><b>i Note</b></p> <p>For Tomcat web application servers, the password is not required.</p> </div>
-DAPP=<app_name>	<p>Specifies the web application component to deploy.</p> <p>Available values for &lt;app_name&gt; include:</p> <ul style="list-style-type: none"> <li>• DataServices</li> <li>• doc</li> <li>• webservice</li> </ul>
<command>	<p>Specifies the command for wdeploy to execute.</p> <p>Available values for &lt;command&gt; include:</p>

Parameter	Description
	<ul style="list-style-type: none"> <li>• <code>deploy</code> Prepares and deploys a single web application component to the web application server.</li> <li>• <code>deployall</code> Prepares and deploys all web application components to the web application server.</li> <li>• <code>undeploy</code> Removes a single web application component from the web application server.</li> <li>• <code>undeployall</code> Removes all web application components from the web application server.</li> </ul>

### 6.3.5.1 To configure Wdeploy

To configure the Wdeploy configuration file to specify the web application server settings:

1. Open the configuration file for your web application server. By default, the configuration files are installed to `<BIP_INSTALL_DIR>\wdeploy\conf`.

Available configuration files include:

- `config.jboss`
- `config.sapappsvr72`
- `config.tomcat55`
- `config.tomcat6`
- `config.weblogic9`
- `config.weblogic10`
- `config.websphere6`
- `config.websphere7`

2. Set the parameters to match your application server settings.
3. Save and close the configuration file.

### 6.3.5.2 To deploy all web components

Deploying all web components deploys `DataService`, `Doc`, and `WebService`. To deploy all web content:

1. Access `<BIP_INSTALL_DIR>\wdeploy` from the command prompt.
2. Run `wdeploy` with the `deployall` command:  

```
wdeploy <server_type> deployall -Das_admin_password=<password>
```

#### Note

Tomcat does not require a password. When you deploy on Tomcat, exclude the `-Das_admin_password=<password>` parameter.

All web components are deployed to the web application server.

#### Example

##### WebSphere 6

```
wdeploy websphere6 deployall -Das_admin_password=mypass
```

#### Note

After you deploy the web applications on Tomcat, you must restart the Tomcat application server for the changes to take effect.

### 6.3.5.3 To deploy one web component

To deploy a single web application component:

1. Access `<BIP_INSTALL_DIR>\wdeploy` from the command prompt.
2. Run `wdeploy` with the `deploy` command and the `-DAPP=<app_name>` parameter:  

```
wdeploy <server_type> -Das_admin_password=<password> -DAPP=<app_name> deploy
```

#### Note

Tomcat does not require a password. When you deploy on Tomcat, exclude the `-Das_admin_password=<password>` parameter.

The specified web component is deployed to the web application server

#### Example

##### DataServices on WebLogic 10

```
wdeploy weblogic10 -Das_admin_password=mypass -DAPP=DataServices deploy
```

#### Note

After you deploy the web application on Tomcat, you must restart the Tomcat application server for the changes to take effect.

## 6.3.5.4 To verify deployment

To verify the deployment was performed properly:

1. Check whether the web applications have been deployed to the correct location.
  - On Tomcat:  
\$CATALINA\_HOME/webapps
  - On WebSphere:  
<server\_folder>/installedApps/<Node\_Cell\_folder>  
For example, C:\Program Files\IBM\WebSphere\AppServer\profiles\AppSrv01\installedApps\SHG-D-01-CGAONode01Cell
  - On WebLogic:  
<server\_folder>/stage/  
For example, C:\bea\wlserver\_10.0\samples\domains\wl\_server\servers\examplesServer\stage
2. Log in to the Management Console, add a repository, and click on each of the modules.  
Each module should display correctly.
3. (Optional) Verify that you can add a web service successfully.
4. Click [About](#) to verify that the version is up-to-date.

## 6.3.5.5 To undeploy all web components

Undeploying all web components undeploys DataServices, Doc, Webservice. To undeploy all web components:

1. Access <BIP\_INSTALL\_DIR>\wdeploy from the command prompt.
2. Run **wdeploy** with the undeployall command:  
wdeploy <server\_type> undeployall -Das\_admin\_password=<password>

### Note

Tomcat does not require a password. When you deploy on Tomcat, exclude the -Das\_admin\_password=<password> parameter.

All web components are removed from the web application server.

### Example

#### WebSphere 6

```
wdeploy websphere6 undeployall -Das_admin_password=mypass
```

### Note

After you undeploy the web applications on Tomcat, you must restart the Tomcat application server for the changes to take effect.

## 6.3.5.6 To undeploy one web component

To undeploy a single web component:

1. Access **<BIP\_INSTALL\_DIR>\wdeploy** from the command prompt.
2. Run **wdeploy** with the **undeploy** command and the **-DAPP=<app\_name>** parameter:  
`wdeploy <server_type> -Das_admin_password=<password> -DAPP=<app_name> undeploy`

### Note

Tomcat does not require a password. When you deploy on Tomcat, exclude the **-Das\_admin\_password=<password>** parameter.

The specified web component is removed from the web application server.

### Example

#### DataServices.war on WebLogic 10

```
wdeploy weblogic10 -Das_admin_password=myspass -DAPP=DataServices undeploy
```

### Note

After you undeploy the web application on Tomcat, you must restart the Tomcat application server for the changes to take effect.

## 6.3.6 To deploy web applications in a distributed environment

In a distributed deployment where the Data Services web applications are deployed to a different system than the Central Management Server (CMS), a broken link may appear in a Central Management Console (CMC) that resides on the same host system as the CMS.

For example, consider the following deployment:

Host A	Host B
BI platform Central Management Server (CMS)	BI platform web tier
BI platform web tier	Data Services web applications
Data Services InfoObjects	

To manually deploy the Data Services web application and repair the broken link on Host A:

1. Copy the **BOE** directory from Host B to Host A.  
By default, the **BOE** directory is located in **<BIP\_INSTALL\_DIR>\warfiles\webapps\**.
2. Use **wdeploy** to deploy the BOE web application on Host A:

- Deploy all SAP web applications from the command-line or GUI.  
Or
- Deploy only the BOE web application from the command-line.

## Related Information

[WDeploy](#) [page 89]

[To deploy all web components](#) [page 94]

[To deploy one web component](#) [page 95]

### 6.3.7 Deploying on WebLogic 10.3

If you are deploying SAP BusinessObjects BI platform and Data Services on WebLogic 10.3, you must perform the following steps:

1. Clean the WebLogic environment or undeploy the Data Services and BI platform deployment if there is a previous deployment. Undeployment can be done from the WebLogic administration console.
2. Move the <BOE\_INSTALL>\warfiles\webapps\DataServices\WEB-INF\lib\wstx-asl-3.2.1.jar file to another location, such as to the desktop or <BOE\_INSTALL>\warfiles.
3. Run wdeploy. The deployment will fail on Data Services, but the Data Services application is uploaded to WebLogic.
4. Go to the WebLogic console, and click [Deployment](#). If you see a warning under Change Center, click [Undo all changes](#).
5. Copy the wstx-asl-3.2.1.jar file to the Data Services WebLogic deployment area: <Weblogic>\<domain>\servers\<instance>\upload\DataServices\app\DataServices\WEB-INF\lib\.
6. Run wdeploy again.
7. Restart the WebLogic server.

### 6.3.8 JBoss 7.1 administrative console manual deployment

Ensure that the web application server is installed, configured, and running (either in standalone or domain mode depending on your environment).

1. Use the wdeploy predeploy command to create WAR files such as Dataservices.war that can be deployed manually to JBoss: wdeploy.bat jboss7 -DAPP=DataServices predeploy  
The wdeploy predeploy command creates an exploded WAR file structure for the Web Services web applications (folders named DataServices.war).
2. Copy the files listed below from the following WDeploy RSA module directory: <BIP\_INSTALL\_DIR>\SAP BusinessObjects Enterprise XI 4.0\wdeploy\rsa\_module
  - certjFIPS.jar

- cryptojFIPS.jar
  - ssljFIPS.jar
  - module.xml
3. On your JBoss application server, create an `rsa\main` directory under `modules\com`, and paste all files copied in Step 1 to **<JBoss\_INSTALL\_DIR>\modules\com\rsa\main**  
When the WAR files are created, copy them to a new location before deploying to JBoss using the JBoss Command Line Interface (CLI).
  4. From the JBoss bin directory, run the command `jboss-cli --connect` to start the JBoss CLI and connect to the application server.
  5. Run the `/deployment` command on the compressed WAR file or exploded WAR folder. If you are deploying to a managed domain, also run the `/server-group` command.  
Assume for the following examples that the WAR is stored in `C:\BIPwebapps\` and the server group is named **main-server-group**.

- For compressed .war files, such as `DataServices.war` set the archive value to true:  
Standalone server:

```
/deployment=DataServices.war:add(enabled="true",runtime-
name="DataServices.war",content=[{"path"=>"C:\BIPwebapps
\DataServices.war","archive"=>true}])
```

Managed domain:

```
/deployment=DataServices.war:add(runtime-
name="DataServices.war",content=[{"path"=>"C:\BIPwebapps
\DataServices.war","archive"=>true}]) /server-group=main-server-group /
deployment=DataServices.war:add(enabled=true)
```

- For exploded .war files, such as `DataServices.war` set the archive value to false:  
Standalone server:

```
/deployment=DataServices.war:add(enabled="true",runtime-
name="DataServices.war",content=[{"path"=>"C:\BIPwebapps
\DataServices.war","archive"=>false}])
```

Managed domain:

```
/deployment=DataServices.war:add(runtime-
name="DataServices.war",content=[{"path"=>"C:\BIPwebapps
\DataServices.war","archive"=>false}]) /server-group=main-server-group /
deployment=DataServices.war:add(enabled=true)
```

## 6.4 Deploying Data Services web applications on SAP NetWeaver 7.3

To deploy Data Services web applications to SAP NetWeaver 7.3, you must follow a different procedure than you use with other web application servers such as WebLogic or WebSphere.

Before you can deploy Data Services web applications to SAP NetWeaver 7.3, the following prerequisites must be met:

- You must be using a Windows Server 2008 or UNIX host.
- SAP NetWeaver 7.3 must be installed.
- SAP BusinessObjects BI platform or Information platform services must be installed.
- SAP Data Services must be installed.

There are two phases involved in deploying Data Services web applications to NetWeaver 7.3:

- **Pre-deployment**  
In this phase, you use the WDeploy tool to prepare the environment.
- **Java Support Package Manager (JSPM)**  
In this phase, you use the SAP NetWeaver Java Support Package Manager (JSPM) tool to deploy SAP and third-party components to the application server. JSPM also detects SAP software components that have been modified, and allows you to apply applicable support packages.  
For more detailed information about JSPM, see the SAP NetWeaver documentation.

## 6.4.1 Pre-deployment configuration

1. Ensure that all pre-requisites are met, and reboot the Data Services host system.
2. If NetWeaver 7.3 is not installed to the same host as the BI platform and Data Services, prepare the NetWeaver host system.
  - a) Create the **<BIP\_INSTALL\_DIR>** directory structure on the NetWeaver host system:  
`C:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0`
  - b) Copy the following directories from the BI platform host system to the new directory on the NetWeaver host system:
    - `wdeploy`
    - `win64_x64\jdk`
    - `warfiles`
3. Configure the Java environment variable.
  - a) Create an environment variable called `JAVA_HOME` that points to the Java home directory.

### Note

You can use the `win64_x64\jdk` folder copied to the NetWeaver host system.

  - b) Add `%JAVA_HOME%\bin` to the system PATH.
4. Update the WDeploy configuration file.
  - a) On the NetWeaver application server host system, open `config.sapappsrv73` in a text editor.  
You can find the configuration file in the **<BIP\_INSTALL\_DIR>\wdeploy\conf** directory.
  - b) Configure the values for the NetWeaver installation location (`as_dir`), system ID, administration port, username, and password.
  - c) Save and close the configuration file.
5. Pre-deploy the web application by creating SCA files.
  - a) Using the command-line, navigate to **<BIP\_INSTALL\_DIR>\wdeploy**.
  - b) If you want to pre-deploy all web applications under `\warfiles\webapps`, use the `predeployall` parameter:

```
wdeploy.bat sapappsvr73 predeployall
```

- c) If you want to pre-deploy a specific application, use the `-DAPP` and `predeploy` parameters:

```
wdeploy.bat sapappsvr73 -DAPP=DataServices predeploy
```

The SCA files are created under `\wdeploy\workdir\sapappsvr73`.

## 6.4.2 Deploying with the Java Support Package Manager (JSPM)

If Data Services web applications have not previously been deployed to the NetWeaver application server, you can follow the fresh deployment method.

You must make the Data Services environment accessible before you deploy Data Services web applications on SAP NetWeaver 7.3 and start the NetWeaver application server. To set up the Data Services environment, do the following:

1. Set `$LINK_DIR` env variable to point to `<dataservices install directory>\dataservices`.
2. Set `$DS_COMMON_DIR` to point to `<dataservices install directory>\dataservices`.

### Note

Steps 1 and 2 can also be done in the NetWeaver users, `.profile`, or related files. By doing this, the environment is set before the NetWeaver application server daemon starts.

3. Restart the NetWeaver application server daemon after Data Services setup.

Before you begin the deployment process, ensure that all server processes on the Java instance have been started.

1. Copy the SCA files for the web applications that you want to deploy from `\wdeploy\workdir\sapappsvr73` to `<install_drive>:\usr\sap\Trans\EPS\in`.

For Data Services, the components include:

- `DataService.sca`
- `doc.sca`

2. Start the Java Support Package Manager.

- a) Navigate to `<install_drive>:\usr\sap<AS_ID>\<instance_folder>\j2ee\JSPM`.
- b) Run `go.bat`.

The SAP GUI for the JSPM tool appears.

3. Enter the username and password for the SAP NetWeaver system and click [Log On](#).  
The [Select Package Type](#) screen is displayed.

4. Select [New Software Components](#) and click [Next](#).  
The [Specify Queue](#) screen is displayed.

5. Select that the components that you want to deploy and click [Next](#).  
The [Check Queue](#) screen is displayed.

6. Ensure that the deployment queue includes the components that you want to deploy and click [Start](#) to begin the deployment process.

The selected components are deployed to the application server. Depending on the components selected, it may take some time to complete the deployment process.

If the deployment is successful, the *Completed* screen is displayed.

If the deployment failed, you can view the log at `<install_drive>:\usr\sap\<AS_ID>\<instance_folder>\j2ee\JSPM\log\log_<timestamp>\deploy_api.0.log`.

7. Click *Exit* to close the JSPM tool.
8. Restart the NetWeaver instance.

After the NetWeaver instance has been restarted, log in to the Data Services web application:

`http://<netweaver_host>:5<instance_number>00/DataServices`

## 6.4.3 Un-deploying Data Services web applications

The Java Support Package Manager (JSPM) tool does not support an un-deployment process. However, you can use the command-line console to un-deploy the Data Services web applications.

1. On the SAP NetWeaver 7.3 host system, navigate to `<install_drive>:\usr\sap\<AS_ID>\<instance_folder>\j2ee\console`.

2. Run `textconsole` and log in using your NetWeaver user name and password.

3. Check if the web application is already deployed.

```
list_app
```

4. Use the `undeploy` command to un-deploy the Data Services web applications.

```
undeploy name=<app_name> on_deploy_error=stop
```

where `<app_name>` is the name of the web application that you want to un-deploy.

Data Services has two web applications that need to be un-deployed:

- SBOP\_DS\_MANAGEMENT\_CONSOLE
- SBOP\_DS\_MANAGEMENT\_CONSOLE\_DOC

## 6.4.4 Other deployment modes

### 6.4.4.1 Updating an existing deployment

If the Data Services web applications are already deployed to the SAP NetWeaver 7.3 application server and you need to update them for a support pack or patch, there are additional steps that you need to perform.

#### **i** Note

Alternatively, you can undeploy the existing web application and perform a fresh deployment with the new version.

To update an existing web application deployment:

1. Update the `SAP_metadata.properties` version.

By default, the properties file is located at `<BIP_INSTALL_DIR>\wdeploy\SDLDSupport\NWSLD\<warfile>`.

#### **i** Note

The support pack or patch version must be set to a higher value than the one in the deployed version.

2. Follow the pre-deployment configuration steps to generate a new SCA file.
3. Follow the JSPM deployment steps, but choose *Single Support Packages and Patches* instead of *New Software Components*.

## Related Information

[Pre-deployment configuration](#) [page 100]

[Deploying with the Java Support Package Manager \(JSPM\)](#) [page 101]

### 6.4.4.2 Forcing re-deployment

In a forced re-deployment, the version of the web application is ignored.

1. Copy the SCA files for the web applications that you want to re-deploy to `<install_drive>:\usr\sap\Trans\EPS\in`.
2. Open the JSPM configuration file in a text editor.  
By default, the configuration file is located at `<install_drive>:\usr\sap\<AS_ID>\<instance_folder>\j2ee\JSPM\param\jspm_config.txt`
3. Add the following lines to the end of the configuration file:  
`/jspm/deployVersionRule=updateAll`  
`/jspm/forceMode=true`
4. Save and close the configuration file.
5. Follow the JSPM deployment steps, but choose *Single Support Packages and Patches* instead of *New Software Components*.

## Related Information

[Deploying with the Java Support Package Manager \(JSPM\)](#) [page 101]



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