SAP BusinessObjects™

Installation Guide for Windows

- SAP BusinessObjects Data Services 4.1 Support Package 1 (14.1.1.0)

2013-01-04

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2013-01-04

Contents

Introduction

1.1 Welcome to SAP BusinessObjects Data Services

1.1.1 Welcome

SAP BusinessObjects 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 BusinessObjects 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 BusinessObjects Data Services

You should become familiar with all the pieces of documentation that relate to your SAP BusinessObjects Data Services product.

Document	What this document provides
Administrator's Guide	Information about administrative tasks such as monitoring, lifecycle management, security, and so on.
Customer Issues Fixed	Information about customer issues fixed in this release.
Designer Guide	Information about how to use SAP BusinessObjects Data Services Designer.
Documentation Map	Information about available SAP BusinessObjects Data Services books, languages, and locations.

Document	What this document provides
Installation Guide for Windows	Information about and procedures for installing SAP BusinessObjects Data Services in a Windows environment.
Installation Guide for UNIX	Information about and procedures for installing SAP BusinessObjects Data Services in a UNIX environment.
Integrator's Guide	Information for third-party developers to access SAP BusinessObjects Data Services functionality using web services and APIs.
Master Guide	Information about the application, its components and scenarios for planning and designing your system landscape. Information about SAP BusinessObjects Information Steward is also provided in this guide.
Management Console Guide	Information about how to use SAP BusinessObjects Data Services Administrator and SAP BusinessObjects Data Services Metadata Reports.
Performance Optimization Guide	Information about how to improve the performance of SAP BusinessObjects Data Services.
Reference Guide	Detailed reference material for SAP BusinessObjects Data Services Designer.
Release Notes	Important information you need before installing and deploying this version of SAP BusinessObjects Data Services.
Technical Manuals	A compiled "master" PDF of core SAP BusinessObjects Data Services books containing a searchable master table of contents and index: • *Administrator's Guide* • *Designer Guide* • *Reference Guide* • *Management Console Guide* • *Performance Optimization Guide* • *Supplement for J.D. Edwards* • *Supplement for Oracle Applications* • *Supplement for PeopleSoft* • *Supplement for Salesforce.com* • *Supplement for Siebel* • *Supplement for SAP* • *Workbench Guide*
Text Data Processing Extraction Customization Guide	Information about building dictionaries and extraction rules to create your own extraction patterns to use with Text Data Processing transforms.
Text Data Processing Language Reference Guide	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.
Tutorial	A step-by-step introduction to using SAP BusinessObjects Data Services.

Document	What this document provides
Upgrade Guide	Release-specific product behavior changes from earlier versions of SAP BusinessObjects Data Services to the latest release. This manual also contains information about how to migrate from SAP BusinessObjects Data Quality Management to SAP BusinessObjects Data Services.
What's New	Highlights of new key features in this SAP BusinessObjects Data Services release. This document is not updated for support package or patch releases.
Workbench Guide	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
Supplement for J.D. Edwards	Information about interfaces between SAP BusinessObjects Data Services and J.D. Edwards World and J.D. Edwards OneWorld.
Supplement for Oracle Applications	Information about the interface between SAP BusinessObjects Data Services and Oracle Applications.
Supplement for PeopleSoft	Information about interfaces between SAP BusinessObjects Data Services and PeopleSoft.
Supplement for Salesforce.com	Information about how to install, configure, and use the SAP BusinessObjects Data Services Salesforce.com Adapter Interface.
Supplement for SAP	Information about interfaces between SAP BusinessObjects Data Services, SAP Applications, SAP Master Data Services, and SAP NetWeaver BW.
Supplement for Siebel	Information about the interface between SAP BusinessObjects Data Services and Siebel.

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

Document	What this document provides
Information Platform Services Administrator's Guide	Information for administrators who are responsible for configuring, managing, and maintaining an Information platform services installation.
Information Platform Services Installation Guide for UNIX	Installation procedures for SAP BusinessObjects Information platform services on a UNIX environment.
Information Platform Services Installation Guide for Windows	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 BusinessObjects Data Services in several places.

1.1.3.1 Accessing documentation on Windows

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

1. Choose **Start** > **Programs** > **SAP BusinessObjects Data Services 4.1** > **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 BusinessObjects 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 BusinessObjects Data Services from the SAP BusinessObjects 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 BusinessObjects information resources

A global network of SAP BusinessObjects 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 http://service.sap.com/	Information about SAP Business User Support programs, as well as links to technical articles, downloads, and online forums. Consulting services can provide you with information about how SAP BusinessObjects 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 BusinessObjects can offer a training package to suit your learning needs and preferred learning style.
Product documentation http://help.sap.com/bods/	SAP BusinessObjects product documentation.
Supported Platforms (Product Availability Matrix) https://service.sap.com/PAM	Get information about supported platforms for SAP BusinessObjects Data Services. Use the search function to search for Data Services. Click the link for the version of Data Services you are searching for.

1.2 Naming Conventions

In this documentation, the following naming conventions apply:

Terminology

- "Data Services system" refers to "SAP BusinessObjects Data Services".
- "BI platform" refers to "SAP BusinessObjects BI platform".

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

<INSTALL_DIR>	The installation directory for the SAP BusinessObjects software.
	
	 Default location:
	 • Windows platforms
	
	 `C:\Program Files (x86)\SAP BusinessObjects`
	
	 • UNIX platforms
	
	 `$HOME/businessobjects`

<BIP_INSTALL_DIR>	The root directory of the BI or IPS platform.
	
	 Default location:
	 • Windows platforms
	
	 `<INSTALL_DIR>/SAP BusinessObjects Enterprise XI 4.0`
	 • UNIX platforms
	
	 `<INSTALL_DIR>/enterprise_xi40`
	
	 Note:
	 These paths are the same for both the SAP BusinessObjects BI platform and SAP BusinessObjects Information platform services.

<LINK_DIR>	The root directory of the Data Services system. Default location: • All platforms `<INSTALL_DIR>/Data Services` This system environment variable is created automatically during installation.
<DS_COMMON_DIR>	

Variables	Description
	The common configuration directory for the Data Services system.
	Default location:
	• Windows (Vista and newer)
	`%SYSTEMDRIVE%\ProgramData\SAP BusinessObjects\Data Services`
	• Windows (Older versions)
	`%SYSTEMDRIVE%\Documents and Settings\All Users\Application Data\SAP BusinessObjects\Data Services`
	• UNIX systems (for compatibility)
	`<LINK_DIR>`
	This system environment variable is created automatically during installation.
`<DS_USER_DIR>`	The user-specific configuration directory for the Data Services system.
	Default location:
	• Windows (Vista and newer)
	`%SYSTEMDRIVE%\Users\username\AppData\Local\SAP BusinessObjects\Data Services`
	• Windows (Older versions)
	`%SYSTEMDRIVE%\Documents and Settings\user name\Application Data`
	This user environment variable is created automatically during installation.
	Note:
	This variable is used only for Data Services client applications on Windows, such as the Designer. `DS_USER_DIR` is not used on UNIX platforms.

Planning

SAP BusinessObjects 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's 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 BusinessObjects 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 BusinessObjects products, the installation program will use the existing directory.

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 BusinessObjects 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.

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 BusinessObjects Data Services, a user must have the following permissions:

Category	Required permissions
Operating system	Local administrator privileges. **Note:** If you are installing Data Services on a Windows 7 or Vista 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.
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 BusinessObjects 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 BusinessObjects 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.

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

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 BusinessObjects 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 and SNMP communication port (optional) Receives commands and sends data to adapters. Required only if you are using adapters or if SNMP is configured.	4000
	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

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

Related Topics

• 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

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

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's Guide*.

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

Related Topics

• 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 server components

2.5 Central Management Server (CMS)

Before you can install SAP BusinessObjects 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 BusinessObjects software

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*

2.6 Web application servers

You can integrate SAP BusinessObjects 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.

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 BusinessObjects 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.

Microsoft SQL Server Express 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
*   Sybase Adaptive Server Enterprise

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.

Preparation

This section details how to prepare for the installation of SAP BusinessObjects 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.
   - Job Server and Access Server configuration information.

3.1 Preparing the repository database

Before you can create a repository for SAP BusinessObjects 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.

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	• CMS registration name • Database name • Server name • Port number (default is 1433) • Login credentials used to access the database
MySQL	• CMS registration name • Database name • Server name • Port number (default is 3306) • Login credentials used to access the database • ODBC DSN name from the Windows System DSN **Note:** If you want to use DSN-less connections, defer repository creation to after installation and follow the steps in DSN-less and TNS-less connections.
SAP HANA	• CMS registration name • Database name • Server name • Port number (default is 30015) • Login credentials used to access the database • ODBC DSN name from the Windows System DSN **Note:** If you want to use DSN-less connections, defer repository creation to after installation and follow the steps in DSN-less and TNS-less connections.
Sybase ASE	• CMS registration name • Database name • Server name • Port number • Login credentials used to access the database

Database	Information required
DB2	• CMS registration name • Database name • Server name: DB2 database alias • Port number • Login credentials used to access the database • ODBC DSN name from the Windows System DSN **Note:** If you want to use DSN-less connections, defer repository creation to after installation and follow the steps in DSN-less and TNS-less connections.
Oracle	• CMS registration name • Server: TNSNAMES connect identifier **Note:** If you want to use TNS-less connections, defer repository creation to after installation and follow the steps in DSN-less and TNS-less connections. • Port number • SID • Login credentials used to access the database
Bundled database	You can also use the default database that is bundled with the BI platform as the Data Services repository host. For more information, see "Configuring the bundled database". **Caution:** 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.

3.1.1 Configuring the bundled database

Before you can use the default DB2 Workgroup database bundled with the SAP BusinessObjects BI platform or Information platform services to host your SAP BusinessObjects Data Services repository, you need to configure the database with OS authentication.

1. Install the BI platform with the default bundled DB2 Workgroup database.
2. Stop the Central Management Server (CMS) and the bundled web application server.

   For more information about stopping servers, see the *SAP BusinessObjects BI Platform Administrator's Guide* or the *SAP BusinessObjects Information Platform Services Administrator's Guide*.

3. Enable OS authentication for the bundled DB2 database with the `db2_enable_osauth.sh` script. For example:

```
./db2_enable_osauth.sh <db2owner>
```

Where `<db2owner>` is the OS user account you used to install the bundled DB2 database.

By default, this script is located in the `/scripts` subdirectory of your Data Services installation package.

Note:

You must execute the script as a root user with full control permission to the `<db2owner>`HOME directory.

4. Restart the CMS and the bundled web application server.

5. Test the connection to the bundled database by using the OS user account you used to install the BI platform.

The `db2_enable_osauth.sh` script creates a default database named `DS14` that you can use to test the connection.

Note:

You can also create your own database on the server, the `DS14` database is created automatically as a convenience.

6. Install Data Services, using the bundled DB2 database as the repository host.
   a. Specify the OS user credentials you used to install the BI platform for the DB2 username and password.
   b. Use the `DS14` database or another database you have created for the repository.

Note:

You can also configure a repository in the bundled database after installation by using the same information with the Repository Manager. For more information about using the Repository Manager, see the *Administrator's Guide*.

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.

  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.

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.

  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.

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:

- 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.
- For Job Servers on UNIX, when you register a Sybase repository in the Central Management Console (CMC), the case you type for the database server name must match the associated case in the `SYBASE_Home\interfaces` file. If the case does not match, you might receive an error because the Job Server cannot communicate with the repository.

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.

3.2 DSN-less and TNS-less connections

SAP BusinessObjects 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 or TNS connection. To use a server name connection:
- Defer repository creation to after installation.
- Invoke the Repository Manager to subsequently create the repository.
  - On Windows, clear the option **Use TNS name** or **Use data source name (DSN)**.
  - On UNIX, specify the s option to use a server name connection.
- Login 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 **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)**.

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
- Sybase IQ
- Teradata

Note:

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

Related Topics

- 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

3.3 Preparing the SAP-supplied person and firm cleansing package

During the Data Services installation process, the installation program can also install the SAP-supplied person and firm cleansing package used by the Data Cleanse transform and Information Steward.

Note:
The cleansing package data is stored in a `.zip` file, which is then also stored in a `.zip` file.

To install the cleansing package, you must prepare the data prior to running the Data Services installation program:

1. Download the cleansing package `.zip` file for your version of the software from the SAP Service Marketplace at http://service.sap.com/bosap-downloads.
2. Unzip the `.zip` file.
3. Copy the `PERSON_FIRM.zip` file to the location required by the Data Services installation program:

   `<INSTALLER_DIR >\dunit\im.lac.ds.cpdata.cp-4.0-core-64\actions\data`

   where `<INSTALLER_DIR>` is the root folder of the Data Services installation program.

   Note:
   If the `PERSON_FIRM.zip` file is not found in the location expected by the installation program, the option to install the SAP-supplied person and firm cleansing package will be disabled during the installation process.

The SAP-supplied person and firm cleansing package is prepared and can be installed during the Data Services installation process.

Note:
You can also use the modify mode of the Data Services installation program to install the SAP-supplied person and firm cleansing package data after Data Services has already been installed on a host system.

Related Topics

• To install the SAP-supplied person and firm cleansing package after Data Services

3.4 Creating a Windows cluster

If you want to take advantage of fail-over support for SAP BusinessObjects 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 Topics

• Configuring a Windows cluster

3.5 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*

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.

- 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

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 BusinessObjects 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 setup language selection dialog box appears.

2. Choose a language for the installation program to use during the installation process.

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

For a complete list of supported languages, see the *Product Availability Matrix* available at http://service.sap.com/PAM.

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 name, company, and 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 BusinessObjects 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
System	The name of the host machine where the Central Management Server (CMS) is installed.
Enables SSL	Specifies whether the CMS uses SSL. **Restriction:** SSL is not supported during Data Services installation.
User	User name of the administrative CMS user. The default is `Administrator`.
Password	The password for the CMS user. The password for the default `Administrator` account was defined during the BI platform installation process.
Authentication mode	The authentication mode used by the CMS. **Restriction:** Data Services supports only the Enterprise authentication method during installation.

Note:

In distributed installations, you need to configure the InfoObject and APS services only once, and can skip the CMS configuration on the other host systems.

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 feature selection screen appears.

10. 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, or you did not provide any CMS connection information.

Component	Description
Job Server	The Job Server starts engine processes to perform data extraction, transformation, and movement. **Note:** Job Servers can also be configured after installation.
Access Server	The Access Server is a real-time, request-reply message broker that collects requests, routes them to a real-time service, and delivers a reply. **Tip:** An Access Server is required only for real-time processing. If you need only batch processing, you do not need to configure an Access Server. **Note:** Access Servers can also be configured after installation.
Designer and Workbench	The Designer is a graphical development tool that enables developers to define data management applications that consist of data mappings, transformations, and control logic. The Workbench is a graphical development tool that enables developers to migrate data and database schema information between different database systems.
Management Console	The Managment Console includes web applications that provide browser-based administration, analysis, and reporting capabilities for Data Services.
APS Services	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 BusinessObjects 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	Supports processing of unstructured text in multiple languages. **Note:** 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.

Component	Description
Cleansing Package	The SAP-supplied person and firm cleansing package is used by SAP BusinessObjects Information Steward and the Data Cleanse transform in Data Services. **Note:** 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. For more information, see Preparing the SAP-supplied person and firm cleansing package.
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 http://help.sap.com.

Tip:
To verify whether you have sufficient available disk space for the selected components, click **Disk Cost**.

The APS service configuration screen appears.

11. Specify the port numbers used by the Metadata Browsing Service, View Data Service, and their JMX connectors.

By default, Data Services uses the following ports:

Port	Default
Metadata Browsing Service	4010
Metadata Browsing Service JMX Connector	4011
View Data Service	4012
View Data Service JMX Connector	4013

The configuration reuse 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.

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 repository configuration screen appears.

13. To configure a local repository, select **Use an existing database server**.

If you choose to configure a local repository, 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. Select the database type.

The SAP Solution Manager integration screen appears.

b. For SAP HANA, MySQL, and Oracle databases, specify the location of the database JDBC driver files.

For SAP HANA, you can also choose to use the bundled JDBC driver.

c. Enter the connection information for the repository database.

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".

d. 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 Job Server configuration screen appears.

14. To configure a Job Server, select **Configure a new Job Server**. If you want to configure Job Servers after installation, you can skip the Job Server configuration screen.

Note:

It's recommended that you use the default values during installation. These values can be changed in the Server Manager after installation.

a. Enter the name and port for the Job Server.
b. Click **Next**.
c. Specify whether to configure additional Job Server properties, such as SSL, SNMP communication, and runtime resources.

The Access Server configuration screen appears.

15. To configure an Access Server, select **Configure a new Access Server**. If you want to configure Access Servers after installation, you can skip the Access Server configuration screen.

> **Note:**
>
> The Access Server is only required for real-time scenarios. If you only use batch processing, you do not need to configure an Access Server.

The login information screen appears.

16. 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.

If you have the SAP Host Agent installed, the SAP Solution Manager integration screen appears.

17. If you want to configure Data Services with SAP Solution Manager, select **Integrate with SAP Solution Manager**.

The SLD server information screen appears.

  a. Enter the hostname and port for your SLD server.
  b. Enter the username and password to use to log into the SLD server.

The start installation confirmation screen appears.

18. 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 installation completion screen appears.

4.1.1 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.

4.1.2 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's Guide*.

Related Topics

• Post-Installation
• WDeploy
• Configuring users and groups
• Configuring repositories
• Configuring Job and Access Servers
• Configuring a Windows cluster

4.1.2.1 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.

4.1.2.2 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*

4.2 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 $<RE$ $SPONSE\_FILE>$ 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
[...]
```

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 Topics

• Installation option parameters
• Response file example

4.2.1 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 `<FILENAME>`, containing the options selected from the installation wizard.	`setup.exe -w "C:\response.ini"`
`-r <FILENAME>`	Reads installation options from a response file named `<FILENAME>`.	`setup.exe -r "C:\response.ini"`
`-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"`

4.2.1.1 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 Topics

• Installation option parameters

4.2.1.1.1 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.

Caution:

When you specify passwords in the installation program, they are stored in the response file in plain text. For security reasons, it is recommended that you remove the passwords from the response file and specify the parameters on the command-line instead.

For example, locate DSCMSPassword=*password* in the response file, remove the password, and then specify it on the command-line:

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

4.2.1.1.2 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:\SAP\SAP BusinessObjects Data Services 4.1\"
```

4.2.1.2 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:\SAP\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.

Note:
If you are installing SAP BusinessObjects Data Services on a Windows 7 or Vista 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.

4.2.2 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 4-1: 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: • English: EN
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 BusinessObjects Data Services, SAP BusinessObjects BI platform, or SAP BusinessObjects Information platform services, the value of InstallDir 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 BusinessObjects 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: `SelectedLanguagePacks="en"` Substitute the following language codes where <*CODE*> is: • English: EN • Japanese: JA • Turkish:TR
RegisteredUser=<*NAME*>	Name of the user to whom the software is registered. Substitute <*NAME*> with the name.
RegisteredCompany=<*NAME*>	Name of the company to whom the software is registered. Substitute <*NAME*> with the name.
ProductKey=<*KEY*>	Product license key issued when you purchased the software. Substitute <*KEY*> with the product key in the format XXXXX-XXXXX-XXXXX-XXXX.
ChooseSLDIntegration=<*VALUE*>	Determines whether SAP System Landscape Directory (SLD) support will be enabled or not. To enable SLD integration, set <*VALUE*> to integrate. To disable SLD integration, set <*VALUE*> to nointegrate.

Parameter	Description
DSCMSAuth=<*TYPE*>	Authentication type used by the Central Management Server (CMS). Susbstitute the authentication type where <*TYPE*> is: • Enterprise authentication: `secEnterprise` **Restriction:** Data Services supports only the Enterprise authentication method during installation.
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.
DSConfigASCommPort=<*PORT*>	Network TCP listening port number used by the Access Server. Substitute <*PORT*> with the port number.
DSConfigASDirectory=<*DIRECTORY*>	Directory where the Access Server should be configured. Substitute <*DIRECTORY*> with the full directory path.
DSConfigASEnableAS=<*SWITCH*>	Determines whether the Access Server will be enabled automatically after the installation is complete. To enable the Access Server automatically after the installation, set <*SWITCH*> to 1. To not enable the Access Server, so that it must be enabled manually at a later time, set <*SWITCH*> to 0.
DSConfigASEnableASSSL=<*SWITCH*>	Determines whether or not SSL support will be enabled on the Access Server. To enable SSL on the Access Server, set <*SWITCH*> to 1. To not enable SSL support, set <*SWITCH*> to 0.
DSConfigASSelection=<*VALUE*>	Determines whether to configure a new Access Server during installation. To configure a new Access Server, set <*VALUE*> to new. To not configure a new Access Server, set <*VALUE*> to skip.

Parameter	Description
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.
DSJSDetailCacheDirectory=<*DIRECTORY*>	Directory where the Job Server pageable cache should be configured. Substitute <*DIRECTORY*> with the full directory path.
DSJSDetailCommPort=<*PORT*>	Network TCP listening port number used by the Job Server for adapter, message broker, and SNMP communication. Substitute <*PORT*> with the port number.
DSJSDetailEnableSSL=<*SWITCH*>	Determines whether SSL support will be enabled on the Job Server. To enable SSL on the Job Server, set <*SWITCH*> to 1. To not enable SSL support, set <*SWITCH*> to 0.
DSJSDetailEnableSNMP=<*SWITCH*>	Determines whether SNMP support will be enabled on the Job Server. To enable SNMP on the Job Server, set <*SWITCH*> to 1. To not enable SNMP support, set <*SWITCH*> to 0.

Parameter	Description
DSJSDetailEndPort=<*PORT*>	Ending network TCP listening port number used by the Job Server when sending data between data flows or sub data flows. Substitute <*PORT*> with the port number.
DSJSDetailStartPort=<*PORT*>	Starting network TCP listening port number used by the Job Server when sending data between data flows or sub data flows. Substitute <*PORT*> with the port number.
DSJSDetailSupportComm=<*SWITCH*>	Determines whether or not the Job Server will support adapter, message broker, and SNMP communication. To enable communication support on the Job Server, set <*SWITCH*> to 1. To not enable communication support, set <*SWITCH*> to 0.
DSJSPCacheEnableSSL=<*SWITCH*>	Determines whether or not SSL support will be enabled for pageable cache on the Job Server. To enable SSL support, set <*SWITCH*> to 1. To not enable SSL support, set <*SWITCH*> to 0.
DSLoginInfoAccountSelection=<*VALUE*>	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 <*VALUE*> to system. To log onto the host system using a specific user account, set <*VALUE*> to this.
DSLoginInfoThisPassword=<*PASSWORD*>	Password for the account that the Data Services service should use to log onto the host system. Substitute <*PASSWORD*> with the password.
DSLoginInfoThisUser=<*USER*>	User name for the account that the Data Services service should use to log onto the host system. Substitute <*USER*> with the user name.
DSMDSJMXPort=<*PORT*>	Network TCP listening port number used by the Metadata Browsing Service for the JMX connector. Substitute <*PORT*> with the port number.
DSMDSPort=<*PORT*>	Network TCP listening port number used by the Metadata Browsing Service. Substitute <*PORT*> with the port number.
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=<*VALUE*>	
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.

Parameter	Description
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: • Microsoft SQL Server: `Microsoft_SQL_Server` • MySQL: `MySQL` • Oracle: `Oracle` • DB2: `DB2` • SAP HANA: `HANA` • Sybase ASE: `Sybase`
DSRepoDBUser=<*USER*>	User name for the database account that will be used to access the repository database. Substitute <*USER*> with the account user name.
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.
DSRepoOracleConnStr=<*VALUE*>	Connection string used to connect to an Oracle repository database. Substitute <*VALUE*> with the connection string.
DSRepoOracleRAC=<*VALUE*>	User-specific Oracle RAC value required to use Oracle as the repository database.
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.

Parameter	Description
`Features=<CODE>`	List of components to install. To select multiple features, use a comma-delimited list without spaces to give each code. In the fol lowing example, the Job Server and Access Server will be selected for install: `Features=DataServicesJobServer,DataServicesAccessServer` For a complete list of feature codes, see Feature codes.

4.2.2.1 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
```

Note:

English is installed automatically.

- `root`: install all features
    - `DataServicesServer`: install all server components
        - `DataServicesJobServer`
        - `DataServicesAccessServer`
    - `DataServicesClient`: install all client components
        - `DataServicesDesigner`
    - `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

4.2.2.2 Response file example

The following example response file contains options for installing SAP BusinessObjects Data Services.

Example:

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

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

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

### #property.CMSEnabledSSL.description#
dscmsenablessl=0

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

### #property.CMSNodeList.description#
dscmsnodelist=boenode
```

```
### CMS administrator password
dscmspassword=password

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

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

### #property.DSConfigASCommPort.description#
dsconfigascommport=4000

### #property.DSConfigASDirectory.description#
dsconfigasdirectory=C:\Program Files (x86)\SAP BusinessObjects\Data Services\bin\AccessServer_1

### #property.DSConfigASEnableAS.description#
dsconfigasenableas=1

### #property.DSConfigASEnableASSSL.description#
dsconfigasenableasssl=1

### #property.DSConfigASSelection.description#
dsconfigasselection=new

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

### #property.DSConfigJSSelection.description#
dsconfigjsselection=new

### #property.DSConfigJSServerName.description#
dsconfigjsservername=JobServer_1

### #property.DSConfigJSServerPort.description#
dsconfigjsserverport=3500

### #property.DSConfigMergeSelection.description#
dsconfigmergeselection=skip

### #property.DSExistingDSConfigFile.description#
dsexistingdsconfigfile=

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

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

### #property.DSJSDetailCacheDirectory.description#
dsjsdetailcachedirectory=C:\Program Files (x86)\SAP BusinessObjects\Data Services\Log\pCache

### #property.DSJSDetailCommPort.description#
dsjsdetailcommport=4001

### #property.DSJSDetailEnabeSSL.description#
dsjsdetailenabessl=1

### #property.DSJSDetailEnableSNMP.description#
dsjsdetailenablesnmp=0

### #property.DSJSDetailEndPort.description#
dsjsdetailendport=32767

### #property.DSJSDetailStartPort.description#
dsjsdetailstartport=1026

### #property.DSJSDetailSupportComm.description#
dsjsdetailsupportcomm=0

### #property.DSJSPCACHEEnableSSL.description#
dsjspcacheenablessl=1

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

### #property.DSLoginInfoThisPassword.description#
dslogininfothispassword=Password
```

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

### JMX connector
dsmdsjmxport=3889

### Metadata service port
dsmdsport=9001

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

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

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

### #property.DSRepoOracleSID.description#
dsrepooraclesid=

### #property.DSRepoSelection.description#
dsreposelection=existing

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

### JMX connector
dsvdsjmxport=8899

### Viewdata service port
dsvdsport=9988

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

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

### Name of company registered for this product.
registeredcompany=Company Name

### Name of user registered for this product.
registereduser=User Name

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

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

```
### Available features
### ------------------
### root
###    DataServicesServer
###       DataServicesJobServer
###       DataServicesAccessServer
###    DataServicesClient
###       DataServicesDesigner
###    DataServicesManagementConsole
###    DataServicesEIMServices
###       DataServicesRFCService
###       DataServicesAdminService
###       DataServicesMetadataService
###       DataServicesViewdataService
###    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,DataServicesDesigner,DataServicesClient,DataSer
vicesRFCService,DataServicesAdminService,DataServicesMetadataService,DataServicesViewdataService,DataSer
vicesMessageClient,TextDataProcessingEnglish,DataServicesDocumentation
```

Post-Installation

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

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 -Uuser -Ppassword -Ddomain
      ```

      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 Topics

• WDeploy

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's 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's 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's 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 BusinessObjects 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 BusinessObjects web applications.
4. Deploy all SAP BusinessObjects web applications.

   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 Topics

• WDeploy

5.8 Verifying real-time connectivity

This section describes specific steps that you can follow to test the SAP BusinessObjects 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 BusinessObjects 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`
`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`
`threxcept2312d.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`

Test file	Copy from	Copy to
`TestOut.dtd`	`LINK_DIR\ConnectivityTest`	Designer computer, `C:\temp`

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 BusinessObjects Data Services and log into your repository.

   Choose **Start > Programs > SAP BusinessObjects Data Services 4.1 > 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 BusinessObjects 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 BusinessObjects 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 BusinessObjects 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 -AHost -pPort -Uuser -Ppassword -SserviceName -XC:\Temp\TestIn.xml
   ```

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

   ```
   ClientTest -AHost -pPort -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 BusinessObjects\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

-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>	Specifies the name of the service that you want to invoke. `C:\Temp\TestIn.xml` Indicates the location of the sample XML request that will be sent to the Access Server for processing.
-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 invode 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 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 BusinessObjects Data Services, reboot the host system after installation has finished.

5.9.1 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 BusinessObjects 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's Guide*.

5.9.2 Windows and UNIX issues

File or application in use

When installing or uninstalling SAP BusinessObjects Data Services on Windows Vista, 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 SAP BusinessObjects Data Services on Windows Vista, 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.

The xml mapping file can not be found or loaded

When installing SAP BusinessObjects Data Services 4.0 Service Pack 2 on top of SAP BusinessObjects 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 BusinessObjects Data Services and click **Uninstall/Change** and select **Repair**.

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

When installing SAP BusinessObjects Data Services 4.0 Service Pack 2 on top of SAP BusinessObjects 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 SAP BusinessObjects Data Services on a machine with BOE or MiniBIP. 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 BusinessObjects Data Services Aurora DS SP2
- Update install from previous versions to SAP BusinessObjects Data Services Aurora SP2
- Update install from SAP BusinessObjects Data Services Aurora SP2 to SAP BusinessObjects Data Services Aurora SP2 Patch1

Problem installing from UNC path

A failure might occur in the CMS Connection screen when launching the SAP BusinessObjects 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 BusinessObjects 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 SAP BusinessObjects 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 SAP BusinessObjects 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/niko lad/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 BusinessObjects 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.

Cleansing Package installation tips

The Cleansing Package files that SAP BusinessObjects Data Services needs are now installed by the SAP BusinessObjects Data Quality Management Cleansing Packages 4.0 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, IPS (mini-BOE), or Business Intelligence Platform (formerly BOE) as InfoObjects.

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

To verify that the cleansing packages where 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.

5.10 Making changes to your Data Services system

5.10.1 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 BusinessObjects Data Services 4.1 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.

5.10.2 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 BusinessObjects Data Services 4.1 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.

5.10.3 To remove SAP BusinessObjects 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 BusinessObjects Data Services 4.1.

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.

5.10.4 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.

5.10.5 To install the SAP-supplied person and firm cleansing package after Data Services

If you need to install the SAP-supplied person and firm cleansing package after Data Services has already been installed on the host system, you can use the Modify mode of the Data Services installation program.

Note:
The cleansing package data is stored in a `.zip` file, which is then also stored in a `.zip` file.

To install the cleansing package data with modify mode:

1. Download the cleansing package `.zip` file for your version of the software from the SAP Service Marketplace at http://service.sap.com/bosap-downloads.
2. Unzip the `.zip` file.
3. Copy the `PERSON_FIRM.zip` file to the location required by the Data Services installation program:

    `<INSTALL_DIR>\InstallData\InstallCache\im.lac.ds.cpdata.dp-4.0-core-64\<DS_VERSION>\actions\data`

    where `<INSTALLER_DIR>` is the root folder of the Data Services installation program.

    Note:
    If the `PERSON_FIRM.zip` file is not found in the location expected by the installation program, the option to install the SAP-supplied person and firm cleansing package will be disabled during the installation process.

4. Open Control Panel.
5. Run the Data Services installation program.
6. When prompted for the installation mode, choose **Modify**.
7. At the feature selection screen, select **Cleansing Package** and leave all other features as they are.

When the installation program completes, the SAP-supplied person and firm cleansing package data has been installed.

Related Topics

• To modify your Data Services system

Additional Information

6.1 Directory data

To correct addresses and assign codes with SAP BusinessObjects Data Services, the Address Cleanse transform relies on directories, or databases. When Address Cleanse uses 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.

Directory type	Directory filename	Approximate Size	Updated Monthly (M) Quarterly (Q)
ZIP4 Directory	zip4us.dir	800 MB	M
Auxiliary Directories	cityxx.dir zcfxx.dir revzip4.dir zip4us.rev zip4us.shs	2 MB 2 MB 1 MB 93 MB 4 MB	M
Early Warning System Directory	ewyymmdd.dir	1 MB	
DPV Data	all files	690 MB	M

Directory type	Directory filename	Approximate Size	Updated Monthly (M) Quarterly (Q)
Enhanced Line of Travel Directory	`elot.dir`	540 MB	M
Canada engine - POC Address Data	POC data `canadapoc.dir` `cancitypoc.dir` `canfsapoc.dir` `canpcipoc.dir` `canpcm.dir`	70 MB	M
Canada engine - Non- POC Address Data	`canada.dir` `cancity.dir` `canfsa.dir` `canpci.dir`	46 MB	M
Global Address engine - Data **Note:** You will receive files only for those countries your company has purchased.		up to 33 GB (for all countries)	Q
Geocoder - Australia, Parcel	`geo_au_nt.dir`	5.2 GB	Q
Geocoder - Canada	`geo_ca_nt.dir`	4.2 GB	Q
Geocoder - France	`geo_fr_nt.dir`	4.2 GB	Q
Geocoder - Germany	`geo_de_nt.dir`	5.8 GB	Q
Geocoder - Switzerland	`geo_ch_nt.dir`	487 MB	Q
Geocoder - United Kingdom	`geo_gb_nt.dir`	2.9 GB	Q

Directory type	Directory filename	Approximate Size	Updated Monthly (M) Quarterly (Q)
Geocoder - United States	`AdvancedGeoFea tures.ZIP` (Includes `geo_us_nt.dir` and `ba sic_geo_us_nt.dir`) `geo_us_nt.dir` `ageo*.dir` `cgeo2.dir`	14.3 GB 77 GB 3 GB 753 MB	Q
Geocoder - United States, Parcel level	`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`	14.3GB 123 GB 3 GB 2.7 GB 753 MB	Q
TomTom - United States, Address	`ageo*.dir` `geo_us_nt.dir`	5.5 GB 556 KB	Q
TomTom - United States, Centroid	`cgeo2.dir` `geo_us_nt.dir`	726 MB 556 KB	Q

Directory type	Directory filename	Approximate Size	Updated Monthly (M) Quarterly (Q)
Z4Change Data	`z4change.dir`	204 MB	M
LACSLink	all files	460 MB	M
SuiteLink	all files	1 GB	M

6.1.2 Directory change report

The directory change report is included in the directory package. The report provides information about changes made to the directories since the last update.

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 disable 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.

Note:
Incompatible or out-of-date directories can render the software unusable. The directories are lookup files used by SAP BusinessObjects 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 Topics

• To unzip directory files

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 BusinessObjects 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-certifed 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. 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 will never expire.

Related Topics

• Designer Guide: View directory expiration dates in the trace log

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 BusinessObjects 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.

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_COM MON_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 BusinessObjects Data Services software update, copy the reference files from the default location to where you store your directories.
   * 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 Download Manager

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

To install and set up 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 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 the SAP Service Marketplace (SMP) site: http://service.sap.com/bosap-support and sign in with your S-User ID and password.

2. Scroll down to Download Software & Directories and click **Address directories for Data Quality / Postalsoft** .

3. Under Address directories and Reference Data click on the first item you want to download (For example, SBOP ADDR DIR <country>).

4. Click the appropriate directory format for the version of software you use (for example, SBOP 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 you want to install.

7. Click **Add to Download Basket**.

   The files you select are placed in the Download Basket.

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 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 BusinessObjects 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 Neighbor-hood	The Presentation Server component installed on a client. It manages ICA client connections and published applications for a given user.
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 BusinessObjects 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 BusinessObjects 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.

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.

Related Topics

• Limitations

6.2.2 Running components in multi-user mode

While Presentation Server allows you to publish SAP BusinessObjects 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 Topics

• Publishing the software

6.2.2.3 Using batch files to access the Locale Selector and Designer

When you install SAP BusinessObjects 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.

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.

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:
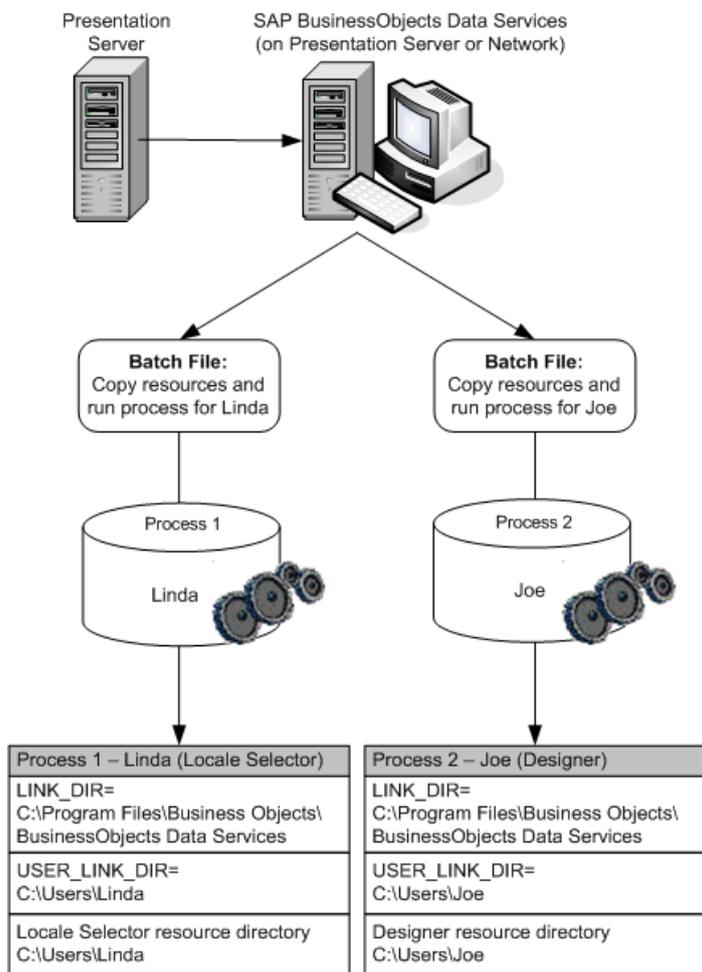
Restriction:

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 BusinessObjects 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.html`
Locale Selector	Application	`RunLocaleSelectorMU.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.
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	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.
	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.
	Since the Management Console is published as content, you can run multiple instances of it.
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 BusinessObjects 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 BusinessObjects Data Services components from client computers, install the Citrix Program Neighborhood software on these computers.

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 Topics
• Initial installation

6.2.4 Limitations

The following are known limitations to running SAP BusinessObjects 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 Topics

- WDeploy prerequisites
- To run WDeploy from the command line

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 a`s_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 `/tmp` for the deployment of web applications. You cannot use the `TEMP` environment variable to define a location other than `/tmp`.
- 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`

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 plaftorm 4 > SAP BusinessObjects BI platform > WDeploy**. It can also be started by running `<BIP_IN STALL_DIR>\wdeploy\wdeployGUI.bat`.

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.

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 BusinessObjects Web Applications to the server
   - Undeploy all available SAP BusinessObjects 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
Select WDeploy work directory	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: `<BIP_INSTALL_DIR>\wdeploy\workdir`

Option	Description
Select Source location of web applications: **Web application source tree location**	The location of source used to create WAR or EAR Example value: `<BIP_INSTALL_DIR>\warfiles\webapps`
Select Source location of web applications: **Generic WAR files location**	The location of source content used to create the generic WAR files. Example value: `<BIP_INSTALL_DIR>\java\applications`
Web applications root context	Select the web application root context path to which all web applications are deployed. Example value: `\BOE`

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>	Specifies the type of the web application server. Available values for *<server_type>* include: • `jboss5` • `sapappsvr72` • `tomcat55` • `tomcat6` • `weblogic9` • `weblogic10` • `websphere6` • `websphere7`
`-Das_admin_pass word=`*<password>*	Specifies the administrator password to use to deploy the application. **Note:** For Tomcat web application servers, the password is not required.
`-DAPP=`*<app_name>*	Specifies the web application component to deploy. Available values for *<app_name>* include: • `DataServices` • `doc` • `webservice`
<command>	Specifies the command for wdeploy to execute. Available values for *<command>* include: • `deploy` Prepares and deploys a single web application component to the web application server. • `deployall` Prepares and deploys all web application components to the web application server. • `undeploy` Removes a single web application component from the web application server. • `undeployall` Removes all web application components from the web application server.

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.jboss5`
   - `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 `DataServices`, `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_pass word=<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=mypass -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 Data Services InfoObjects	BI platform web tier Data Services web applications

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 BusinessObjects web applications from the command-line or GUI.

     Or

   - Deploy only the BOE web application from the command-line.

Related Topics

• WDeploy

- To deploy all web components
- To deploy one web component

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: `<Weblog ic>\<domain>\servers\<instance>\upload\DataServices\app\DataServices\WEB-INF\lib\`.
6. Run wdeploy again.
7. Restart the WebLogic server.

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 BusinessObjects 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.sapappsvr73` 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 `predeploy all` 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.

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 `\wde ploy\workdir\sapappsvr73` to `<install_drive>:\usr\sap\Trans\EPS\in`.

   For Data Services, the components include:
   - `DataServices.sca`
   - `doc.sca`

2. Start the Java Support Package Manager.
   a. Navigate to `<install_drive>:\usr\sap\<AS_ID>\<instance_folder>\j2ee\JSPM`.
   b. On Windows, run `go.bat`. On UNIX, run `go`.

   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_fold er>\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.

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>`

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 Topics

• Pre-deployment configuration
• Deploying with the Java Support Package Manager (JSPM)

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 `<in stall_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>\<in stance_folder>\j2ee\JSPM\param\jspm_config.txt`

3. Add the following lines to the end of the configuration file:

   `/jspm/deployVersionRule=updateAll`

   `/jpsm/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 Topics

• Deploying with the Java Support Package Manager (JSPM)

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