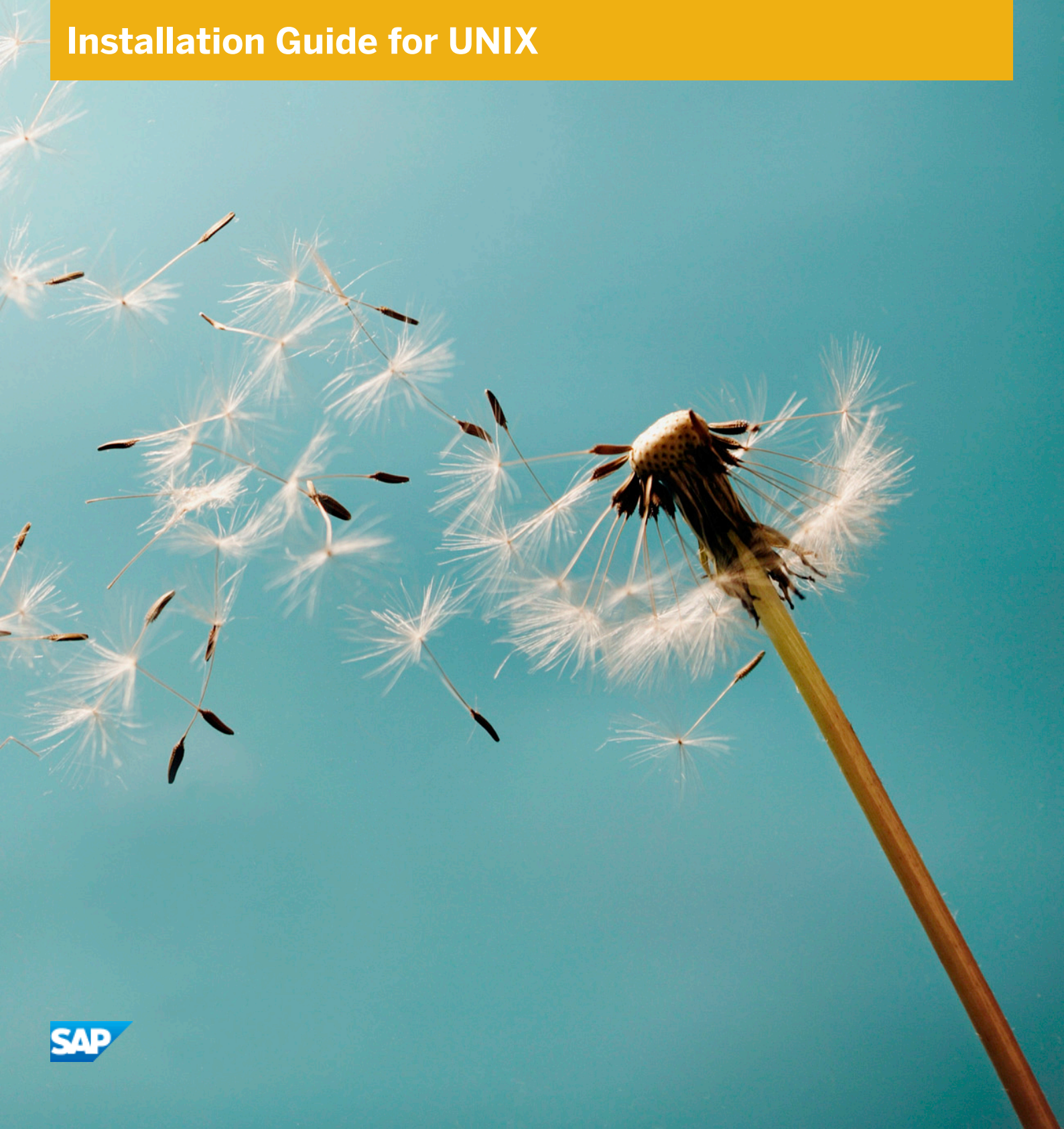


SAP Data Services

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Installation Guide for UNIX



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1 Introduction

1.1 Introduction to SAP Data Services

SAP Data Services delivers a single enterprise-class solution for data integration, data quality, data profiling, and text data processing.



Businesses can use Data Services to integrate, transform, improve, and deliver trusted data to critical business processes. IT organizations can depend on Data Services for maximum operational efficiency to improve data quality and gain access to heterogeneous sources and applications. Data Services provides all of these features using:



- Single development user interface
- Metadata repository
- Data connectivity layer
- Runtime environment
- Management Console

1.2 SAP information resources

SAP supplies you with a global network of technology experts including customer support, education, and consulting to ensure maximum information management benefit to your business.

The following table lists the resources that are available to you as a user of SAP Data Services.

Resource	Content
Customer Support, Consulting, and Education services 	Information about SAP Business User Support programs, as well as links to technical articles, downloads, and online discussions.
Product documentation and tutorial	SAP product documentation. The tutorial introduces core features, concepts and techniques to extract, transform, and load batch data from flat-file and relational database sources for use in a data warehouse.
SAP Data Services on SAP Community 	Get online and timely information about SAP Data Services, including forums, tips and tricks, additional downloads, samples, and much more. All content is to and from the community, so feel free to join in and contact us if you have a submission.

Resource	Content
Product Availability Matrix (PAM) 	Information about supported platforms for SAP Data Services with a search function to quickly find information related to your platform.
Blueprints 	Blueprints for you to download and modify to fit your needs. Each blueprint contains the necessary SAP Data Services project, jobs, data flows, file formats, sample data, template tables, and custom functions to run the data flows in your environment with only a few modifications.

1.3 Naming Conventions

In this documentation, the following naming conventions apply:

Terminology

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

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 the BI or IPS platform.

Variables

Variables	Description
<code><INSTALL_DIR></code>	<p>The installation directory for the SAP software.</p> <p>Default location:</p> <ul style="list-style-type: none"> • For Windows: <code>C:\Program Files (x86)\SAP BusinessObjects</code> • For UNIX: <code>\$HOME/sap businessobjects</code>

Variables	Description
<BIP_INSTALL_DIR>	<p>The root directory of the BI or IPS platform.</p> <p>Default location:</p> <ul style="list-style-type: none"> For Windows: <INSTALL_DIR>\SAP BusinessObjects Enterprise XI 4.0 For UNIX:<INSTALL_DIR>/enterprise_xi40 <div> <p>i Note</p> <p>These paths are the same for both the SAP BusinessObjects BI platform and SAP BusinessObjects Information platform services.</p> </div>
<LINK_DIR>	<p>The root directory of the Data Services system.</p> <p>Default location:</p> <ul style="list-style-type: none"> All platforms <INSTALL_DIR>/Data Services <p>This system environment variable is created automatically during installation.</p>
<DS_COMMON_DIR>	<p>The common configuration directory for the Data Services system.</p> <p>Default location:</p> <ul style="list-style-type: none"> Windows (Vista and newer) ALLUSERSPROFILE\SAP BusinessObjects\Data Services Windows (Older versions) ALLUSERSPROFILE\Application Data\SAP BusinessObjects\Data Services UNIX systems (for compatibility) <LINK_DIR> <p>This system environment variable is created automatically during installation.</p> <div> <p>i Note</p> <p>Starting with Data Services 4.2 SP6, users can designate a different default location for DS_COMMON_DIR. If you cannot find the DS_COMMON_DIR in the listed default location above, ask your System Administrator to find out where the default location is for DS_COMMON_DIR.</p> </div>

Variables	Description
<DS_USER_DIR>	<p>The user-specific configuration directory for the Data Services system.</p> <p>Default location:</p> <ul style="list-style-type: none"> Windows (Vista and newer) USERPROFILE\AppData\Local\SAP BusinessObjects\Data Services Windows (Older versions) USERPROFILE\Local Settings\Application Data\SAP BusinessObjects\Data Services <p>This user environment variable is created automatically during installation.</p> <div> <p>i Note</p> <p>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.</p> </div>

2 Planning

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

Carefully review deployment and architecture information in the *Data Services Master Guide* and consider the following points when you decide how the components that comprise Data Services are distributed:

- For a small development deployment, consider using the installation program's default options to install Data Services, SAP BusinessObjects Information platform services (IPS), and a web application server on a single host system.
- For a larger scale deployment, consider installing 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 IPS.

For more information on the compatibility of Data Services with BI platform or IPS versions, see KBA [1740516](#).

For information about BI Platform user licenses, see SAP Note [2176896](#).

i Note

When you install Data Services (DS) on top of Business Intelligence platform (BI platform), the BI licensing model is used when connecting to the Central Management Server (CMS). For example, if you have ten BI named user licenses, these named user licenses are also shared with DS. This means you can create only ten users in the CMS and at any point in time have ten CMS sessions. To take advantage of unlimited user licenses when connecting to the CMS, install DS on top of SAP BusinessObjects Information platform services (IPS).

Before you install Data Services:

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

Related Information

[Process flow \[page 10\]](#)

[Central Management Server \(CMS\) \[page 18\]](#)

2.1 Process flow

The planning process flow involves the following steps:

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

Related Information

[System requirements \[page 10\]](#)

[Account permissions \[page 12\]](#)

[Network permissions \[page 16\]](#)


[Web application servers \[page 19\]](#)

[Database servers \[page 20\]](#)

2.2 System requirements

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

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

For a complete list of supported operating systems and hardware requirements, see the *Product Availability Matrix* (PAM) available at <https://support.sap.com/release-upgrade-maintenance/pam.html> .

2.2.1 System locale

The installation program requires the system to be configured with a UTF-8 locale.

To set your system locale to UTF-8, set the `LANG` or `LC_ALL` environment variables.

For example, on Linux:

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

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

i Note

The locale name may be different depending on your UNIX platform. To list the available locales on your system, use the `locale -a` command.

2.2.2 Additional SuSE requirements

Ensure that all required SuSE files are installed before installing Data Services.

A default install of SuSE 12 may not include files required to run the Data Services 32-bit installer. When installing on SuSE, the Data Services installer requires the `libstdc++33-32bit-3.3.3-12.15.x86_64` package. It is provided via the SuSE support channel, and is contained in the “Legacy_Module_12_86_64” repositories.

To install the files, use the command:

```
zypper install libstdc++33*
```

2.2.3 Additional Red Hat Linux requirements

Ensure that all required Red Hat Linux files are installed before installing Data Services.

For details, see “Additional requirements for Red Hat Linux” in the *Business Intelligence Platform Installation Guide for Unix* or *Information platform services Installation Guide for Unix*.

2.3 Software dependencies

Before you install SAP Data Services, ensure that your host systems meet all software dependency requirements.

For complete information about software environment requirements, see the *Product Availability Matrix* (PAM) available at: <https://support.sap.com/release-upgrade-maintenance/pam.html>.

2.3.1 IPS installation

To install Information platform services (IPS), run an interactive installation of IPS.

To install Information platform services (IPS), locate and run `InstallIPS.sh` to run an interactive installation of IPS.

If you are an OEM customer, locate and run `InstallIPSOEM.sh`.

The license key is embedded to run an interactive installation from the same location as the default installation program `setup.exe`.

2.3.2 Connection Manager requirements

To use the graphical user interface of the Data Services Connection Manager, you must install the GTK+2 library.

For more information about obtaining and installing the library, see <http://www.gtk.org>.

2.4 Account permissions

To install SAP Data Services, a user must have specific system permissions.

Required permissions

Category	Required permissions
Operating system	<ul style="list-style-type: none">• Permission to read, write, and execute scripts in the destination directory.• For a system install, root access is required. The installation program creates start-up run control scripts in <code>/etc/rc</code> that start or stop the servers when the host machine is started or stopped.
Network	<ul style="list-style-type: none">• Network connectivity through appropriate ports to all host systems in the deployment.• Access to shared file system directories for users of the deployment.• Appropriate network authentication privileges.
Database	Permission for the SAP user account to: <ul style="list-style-type: none">• Create and drop tables.• Read, write, and edit table rows.

➔ Recommendation

Use the same user account for installing Data Services and your Web application server.

Additional notes

➔ Recommendation

If your design, test, or production environment uses tightly controlled root-level administration, install the Job Server while logged on as a user without root-level access. Installing the Job Server with root-level access ensures that root-level access is not required to administer files and processes created by the Job Server.

Only a few administration functions require root-level access:

Function	Required permissions
Scheduling jobs	Permission to access <code>cron</code> .

Function	Required permissions
Automatically restarting the Job Server on system restart	System-level authority to edit Autostart configuration.

2.4.1 Cron service

SAP Data Services schedules UNIX-based jobs by using the `cron` utility. If `cron` security uses `cron.allow`, the account that starts the Job Server must have an entry in the `cron.allow` file.

Operating system	<code>cron.allow</code> location
AIX	<code>/var/adm/cron/cron.allow</code>
Solaris	<code>/usr/lib/cron/cron.allow</code>
Linux	<code>/etc/cron.allow</code>

For more information, see your `cronman` pages.

i Note

Installing the Job Server without access to `cron` causes the following Job Server behavior:

- The Job Server can operate normally.
- The software cannot schedule a job to run on the Job Server.
- You can manually execute and monitor jobs from the Designer.

2.4.2 Additional UNIX and Linux requirements

UNIX and Linux have additional requirements for account permissions.

Related Information

[User account \[page 14\]](#)

[Locale \[page 14\]](#)

[Commands \[page 14\]](#)

[Installation \[page 15\]](#)

2.4.2.1 User account

Create a user account and group under which the software's background processes can run.

Use this account to perform the installation and run the software. The account does not require root privileges.

Related Information

[Additional UNIX and Linux requirements \[page 13\]](#)

2.4.2.2 Locale

Before you install, set the installing account's environment to use a supported UTF-8 locale and ensure that your console software supports UTF-8 character sets.


To ensure that your operating system uses the correct locale, set the LC_ALL and LANG environment variables to your preferred locale in your login environment.

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

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

➔ Tip

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

For a detailed list of supported Unix and Linux environments, see the *Product Availability Matrix* (PAM) available at: <https://support.sap.com/release-upgrade-maintenance/pam.html> .

Related Information

[Additional UNIX and Linux requirements \[page 13\]](#)

2.4.2.3 Commands

For the installation program to run correctly, you must install specific utilities.

The following utilities must be installed on your system and available on the path:

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

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

i Note

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

Related Information

[Additional UNIX and Linux requirements \[page 13\]](#)

2.4.2.4 Installation

A new installation can be one of two types:

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

Related Information

[Additional UNIX and Linux requirements \[page 13\]](#)

2.5 Network permissions

When you install SAP Data Services across multiple host systems, ensure your network functions properly by following certain guidelines:

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 or servers.
- Each host system must use a fixed hostname. Fully qualified hostnames are supported.

i Note

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

i Note

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

2.5.1 Port assignments

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

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

Related Information

[Port requirements for Data Services server components \[page 17\]](#)

[Port requirements for Data Services client applications \[page 17\]](#)

2.5.1.1 Port requirements for Data Services server components

There are specific communication ports that are used by Data Services server components.

If you deploy Data Services with firewalls, use this information to open the minimum number of ports in those firewalls.

Server component default ports

Component	Description	Default port
Job Server	Communication port Receives commands from Designers, Access Servers, and schedulers.	3500
	Request port Communicates with the Designer for the notification server feature.	Dynamic
	Adapter communication port (optional) Receives commands and sends data to adapters. Required only if you are using adapters.	4000
	Debugger port (optional) Supports communication for the Designer interactive debugging feature.	5001
Access Server	Communication port Receives and sends messages from clients and services.	4001
EIM Adaptive Processing Server	Metadata Browsing Service listener port Communicates with the Data Services backend engine.	4010
	Metadata Browsing Service JMX Connector communication port	4011
	View Data Service listener port Communicates with the Data Services backend engine.	4012
	View Data Service JMX Connector communication port	4013

i Note

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

2.5.1.2 Port requirements for Data Services client applications

Communication ports that are used by Data Services client applications and web applications.

If you deploy Data Services with firewalls, you can use this information to open the minimum number of ports in those firewalls.

Designer port requirements

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

Workbench port requirements

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

Management Console port requirements

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

i Note

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

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

i Note

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

Related Information

[Port requirements for Data Services server components \[page 17\]](#)

2.6 Central Management Server (CMS)

Before you can install SAP Data Services, you must have a working SAP BusinessObjects BI platform Central Management Server (CMS).

The installation program creates Data Services InfoObjects in the CMS. Data Services relies on the CMS for:

- Centralized user and group management

- Flexible authentication methods
- Password enforcement policies
- Administrative housekeeping services
- RFC Server hosting
- Services for integrating other SAP software

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 (IPS).

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

If you are an OEM customer, locate and run `InstallIPSOEM`.

For information about installing SAP BusinessObjects IPS, see the *SAP BusinessObjects Information Platform Services Installation Guide*.


Other related installation notes:

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

2.7 Web application servers

Integrate SAP Data Services with a Java Web application server.

The SAP BusinessObjects BI platform and Information Platform Service provides Tomcat as the default Java Web application server. The Web application server must be operational and available when you run the installation program.

For a complete list of supported Web application servers, consult the *Product Availability Matrix* (PAM) available at <https://support.sap.com/release-upgrade-maintenance/pam.html> .

Note

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

2.8 Database servers

To configure the SAP Data Services repository during installation, set up a database server that is operational and accessible when you install Data Services.

The database server hosts the SAP Data Services repository.


SAP bundles the SAP Sybase SQL Anywhere database server with the SAP BusinessObjects BI platform and Information Platform Services (IPS) installation. To use the bundled database, select the option during BI or IPS installation.

Data Services also supports the following database servers:

- IBM DB2
- MySQL
- Oracle
- SAP HANA
- SAP SQL Anywhere (bundled with BI or IPS)
- SAP 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* (PAM) available at <https://support.sap.com/release-upgrade-maintenance/pam.html> .

Related Information

[Prepare the repository database \[page 24\]](#)

[Requirements for third-party databases \[page 25\]](#)

2.9 Kernel parameters and user resource limits

Adhere to the specific kernel parameters and resource limits for AIX, Solaris, and Linux.

When you install SAP Data Services, use the specified kernel parameters and user resource limits.

Recommendation

In addition, if you intend to use the USA Regulatory Address Cleanse transform with caching of DPV and LACSLink directories, set your operating system's Data Segment Size limit to Unlimited. This system parameter must be set before starting the software.

[AIX user resource limits \[page 21\]](#)

[Solaris user resource limits \[page 21\]](#)

[Linux user resource limits \[page 22\]](#)

2.9.1 AIX user resource limits

For installations on AIX host systems, it's recommended that you use the following user resource limits. You can display these settings by running the `ulimit -a` command from your Data Services user.

User resource limit	Value	Comments
file (blocks)	4194302	At least 2 GB
data (kbytes)	unlimited	
stack (kbytes)	2048	2 MB
memory (kbytes)	2097151	At least 2 GB
nofiles (descriptors)	2000	At least 2000

Parent topic: [Kernel parameters and user resource limits \[page 20\]](#)

Related Information

[Solaris user resource limits \[page 21\]](#)

[Linux user resource limits \[page 22\]](#)

2.9.2 Solaris user resource limits

For installations on Solaris host systems, it's recommended that you use the following user resource limits. You can display these settings by running the `ulimit -a` command from your Data Services user.

User resource limit	Value	Comments
file (blocks)	unlimited	
data (kbytes)	unlimited	
stack (kbytes)	2048	2 MB
time (seconds)	unlimited	
nofiles (descriptors)	1024	At least 1 K
coredump (blocks)	unlimited	
vmemory (kbytes)	unlimited	Unlimited, at least 2 GB

Parent topic: [Kernel parameters and user resource limits \[page 20\]](#)

Related Information

[AIX user resource limits \[page 21\]](#)

[Linux user resource limits \[page 22\]](#)

2.9.3 Linux user resource limits

For installations on Linux host systems, it's recommended that you use the following user resource limits. You can display these settings by running the `ulimit -a` command from your Data Services user.

User resource limit	Value	Comments
file (blocks)	unlimited	
data (kilobytes)	unlimited	
stack (kilobytes)	2048	2 MB
time (cpu-seconds)	unlimited	
nofiles (descriptors)	1024	
coredump (blocks)	unlimited	
memory (kilobytes)	unlimited	
lockedmem (kilobytes)	4	
processes	7168	

Parent topic: [Kernel parameters and user resource limits \[page 20\]](#)

Related Information

[AIX user resource limits \[page 21\]](#)

[Solaris user resource limits \[page 21\]](#)

3 Preparation

This topic contains information about how to prepare for installing SAP Data Services.

The following process flow outlines the steps involved in preparing for Data Services installation.

1. Gather the installation media or download the latest release and any patches or service packs from the support portal at <https://support.sap.com/swdc>.
2. Ensure that your system has sufficient disk space for the installation. Include space for future growth for both your operating system and the software, as patches and new features become available.
3. Decide what options to 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 prompts you 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.

Related Information

[Prepare the repository database \[page 24\]](#)

3.1 Install GDB for troubleshooting

The GNU Project Debugger (GDB) helps SAP support staff investigate software crashes without the need for you to send the entire core dump file.

You are not required to install GDB, but it is helpful for solving installation and software issues. The GDB is primarily for Linux platforms, but it can be helpful in many other installation situations. The GDB package installs GDB and GStack.

Obtain a GDB installation, and read more about how the GNU Project Debugger can help you at their official Web site: <https://www.gnu.org/software/gdb/>.

3.2 Prepare the repository database

Before you install SAP Data Services, create a database for the repository using a database server that is approved to use with Data Services.

If you plan to create and configure the Data Services repository during installation, prepare a database in your preferred database manager type. If you plan to use DSN or TNS connections, skip the repository creation steps during installation.

Bundled database

When you install Business Intelligence (BI) platform or Information Platform Service (IPS), you can choose to install SAP SQL Anywhere, which is bundled with the software. Prepare a database in SQL Anywhere for the Data Services repository by following the process in “Prepare the bundled database”.

For all supported third party database servers, create a database, tablespace, or schema for the Data Services repository. Make sure that you include the following settings in the database:

- Unicode character encoding, such as UTF-8
- Privileges to create, modify, and delete tables and to create stored procedures.

In addition, install applicable client drivers for using the database server on a network. Ensure that the drivers work. Contact your administrator if you don't know the correct driver to install.

Record the database account information, such as server name, user name, and password, so that you can enter the details when prompted by the Data Services installer.

See the Product Availability Matrix (PAM) for a list of approved repository databases and versions for the Data Services repository database. The PAM is located at <https://support.sap.com/release-upgrade-maintenance/pam.html>.

During Data Services installation, enter a unique Central Management Server (CMS) registration name for the repository, repository connection information, and authentication credentials. The installer uses this information to initialize the repository database.

Note

The CMS registration name determines how the repository appears in the Central Management Console (CMC).

Related Information

[Requirements for third-party databases \[page 25\]](#)

[Configuring the bundled database \[page 27\]](#)

3.2.1 Requirements for third-party databases

Gather the required information for your database type before you install SAP Data Services.

Third-party databases are those that are approved for the version of SAP Data Services that you install. For an up to date list of supported third-party databases and versions, see the SAP Product Availability Matrix at <https://help.sap.com/viewer/disclaimer-for-links?q=https%3A%2F%2Fapps.support.sap.com%2Fsap%2Fsupport%2Fpam%3Fhash%3Dpvr%253D67838200100900005703>.

Third-party database required information

Database	Information required
MySQL	<ul style="list-style-type: none">• CMS registration name• Database name• Database server version• Server name• Port number (default is 3306)• Login credentials used to access the database <div>Note If you want to use DSN connections, defer repository creation to after installation and follow the steps in "DSN-less and TNS-less connections" in the <i>Administrator Guide</i>.</div>
SAP HANA	<ul style="list-style-type: none">• CMS registration name• Server name• Database server version• Port number (default is 30015)• Login credentials used to access the database <div>Note If you want to use DSN connections, defer repository creation to after installation and follow the steps in "DSN-less and TNS-less connections" in the <i>Administrator Guide</i>.</div>
SAP ASE	<ul style="list-style-type: none">• CMS registration name• Database name• Server name• Sybase connection string• Port number• Login credentials used to access the database

Database	Information required
DB2	<ul style="list-style-type: none"> • CMS registration name • Database name • Server name: DB2 database alias • Database server version • Port number • Login credentials used to access the database <p>i Note</p> <p>If you want to use a DSN connection, see Preparing a TNS or DSN database connection [page 56].</p>
Oracle	<ul style="list-style-type: none"> • CMS registration name • Server: TNSNAMES connect identifier • Database server version • Port number • SID • Login credentials used to access the database <p>i Note</p> <p>TCPS protocol is supported for Oracle repositories. If you want to use TNS connections or use TCPS protocol, defer repository creation to after installation and follow the steps in the <i>Administrator Guide</i>.</p>
SAP SQL Anywhere	<p>Database server that is bundled with the BI or IPS installation.</p> <ul style="list-style-type: none"> • CMS registration name • Database name • Database server version • SQL Anywhere ODBC driver file • Server name • Port number • Login credentials used to access the database <p>⚠ Caution</p> <p>If you use the bundled database as your Data Services repository host, you must use the database client tools to manage database backup and restore. Be sure to back up your repository before uninstalling the BI platform or IPS.</p>

Related Information

[Configuring the bundled database \[page 27\]](#)

3.2.2 Configuring the bundled database

Configure the SAP Sybase SQL Anywhere database server before you install SAP Data Services so that it is ready for the repository set up steps during installation.

See the complete documentation set for SAP SQL Anywhere on the SAP Help Portal: https://help.sap.com/viewer/p/SAP_SQL_Anywhere.

1. Set up the sql_anywhere environment using the following sample code:

```
source <BIP_INSTALL_DIR>/sqlanywhere/bin64/sa_config.sh
```

2. Create a Data Services repository database named DS_REPO on sql_anywhere using "dba" as the user. If you do not specify a password, the software uses the default password "sql".

The following command creates a database for "dba" with a user-specified password: `dbinit -t <BIP_INSTALL_DIR>/sqlanywhere/database/DS_REPO.log -zn UTF8BIN -z UTF8BIN <BIP_INSTALL_DIR>/sqlanywhere/database/DS_REPO.db -dba dba, <pwd>`

This command creates the DS_REPO database in: `<BIP_INSTALL_DIR>/sqlanywhere/database/DS_REPO.db`

3. Stop the sql_anywhere server using the following sample code:

```
<BIP_INSTALL_DIR>/sap_bobj/sqlanywhere_shutdown.sh
```

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

4. Edit the existing `<BIP_INSTALL_DIR>/sap_bobj/sqlanywhere_startup.sh` script to include the Data Services repository database:
 - a. Add a row to set the value for SQLANYWHERE_DS_DBFILE property.

The following example contains three rows:

- The first two rows already exist in the script
- The new row appears after the existing rows

```
SQLANYWHERE_CMS_DBFILE=<BIP_INSTALL_DIR>/sqlanywhere/database/BI4_CMS.db
SQLANYWHERE_AUDIT_DBFILE=<BIP_INSTALL_DIR>/sqlanywhere/database/BI4_Audit.db
SQLANYWHERE_DS_DBFILE=<BIP_INSTALL_DIR>/sqlanywhere/database/DS_REPO.db
```

- b. Modify the dbspawn command in the sqlanywhere_startup script to include the new SQLANYWHERE_DS_DBFILE property at the end:

```
dbspawn -f dbsrv17 -gk all -n "$SQLANYWHERE_SERVER" -x "tcpip(port=${
{SQLANYWHERE_PORT}};DoBroadcast=NO;BroadcastListener=NO)" "$
{SQLANYWHERE_CMS_DBFILE}" "${SQLANYWHERE_AUDIT_DBFILE}" "${
{SQLANYWHERE_DS_DBFILE}"
```

5. Restart the sql_anywhere server:

```
<BIP_INSTALL_DIR>/sap_bobj/sqlanywhere_startup.sh
```

Bundled SQL Anywhere ODBC settings

When you install the BI platform or IPS and select to use the bundled database, the installer creates the Central Management Server (CMS) repository database and the auditing database. The installation program attempts to find and write the new DSN entries to any existing ODBC system information file. If the installer does not detect an ODBC system information file, it creates a file with the new DSN entries and saves it in `$HOME`.

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

3.2.3 Extra requirements for DB2

Extra requirements if you use DB2 for your repository database

Extra requirements for DB2

Requirement	More information
Install the DB2 Application Enabler software	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	Page size must be 32K.

3.2.4 Extra requirements for MySQL, 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 \[page 54\]](#).

- Ensure that the Data Services Connection Manager is configured.
For more information about obtaining and using the unixODBC driver for MySQL, see “To configure MySQLODBC for DSN connections” in the *Administrator Guide*.

3.2.5 Extra requirements for Oracle

Extra requirements if you use Oracle for the repository database.

If you are using Oracle for the repository database:

Extra requirements for Oracle

Requirement	More information
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.	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

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`.

3.2.6 Extra requirements for Sybase

Extra requirements if you use Sybase for the repository database.

Extra requirements for Sybase

Requirement	More information
Select the SAP ASE database properties option named <i>ddl in tran</i> .	You must select this option before you install Data Services to successfully create and validate the repository.
You may use 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 variable's <code>%PATH%</code> 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 <code>SYBASE_Home/interfaces</code> file.	If the case does not match, you might receive an error because the Job Server cannot communicate with the repository.
SAP ASE database page.	Size should be 4K or more.

3.2.7 Extra requirements for SAP HANA

Extra requirements if you use SAP HANA for the repository database.

Extra requirements for SAP HANA

Requirement	More information
Install bundled SQL Anywhere for the CMS and auditing database.	<p>The installation program attempts to find and write new DSN entries to an existing ODBC system information file. If no existing file is detected or set, the installation program creates a file with the new DSN entries at <code><BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/odbc.ini</code>.</p> <p>If you introduce new ODBC entries for reporting and analytic purposes, consolidate these entries into the same <code>.ini</code> file as the CMS and auditing database.</p> <p>For more information, see the <i>Information platform services Installation Guide for Unix</i> or <i>Information platform services Installation Guide for Windows</i>.</p>
(Optional) Download the JDBC driver for the database.	<p>Data Services includes a bundled JDBC driver for SAP HANA, however, you can also choose to use a newer driver version, if available.</p> <p>The Data Services installation program asks you to provide its location during the installation process.</p> <div><p>i Note</p><p>If you do not configure the repository during installation, you need to manually copy the JDBC driver to the correct location. For more information, see Configuring JDBC drivers for SAP HANA, Oracle, and MySQL [page 54].</p></div>

3.3 DSN-less and TNS-less connections

DSN-less and TNS-less connections are also known as server name connections.

By default, Data Services provides DSN-less and TNS-less (server name) connections to databases that you use for the Data Services repository and databases that you use as a source or target.

Server name connections eliminate the need to configure the same DSN (ODBC Data Source Name) or TNS (Transparent Network Substrate) entries on every machine in a distributed environment.

Restriction

When you install Data Services, the repository defaults to a DSN-less or TNS-less connection. If you do not want this type of connection, skip the repository creation during installation. Use the Repository Manager to set up

the repository connection after installation, and follow the instructions in “Preparing a TNS or DSN database connection” in the *Installation Guide*.

The following table lists all eligible repository databases and the connection types they support.

i Note

This information is subject to change.

Database	DSN	DSN-less
DB2	Yes	Yes
Microsoft SQL Server	No	Yes
My SQL	Yes	Yes
Oracle	Yes: TNS	Yes: TNS-less
SAP HANA	Yes	Yes
SQL Anywhere	Yes	Yes
Sybase ASE	No	Yes

The following table lists all eligible source and target databases and the connection types they support.

i Note

This information is subject to change.

Database	DSN	DSN-less
Amazon Redshift	No	Yes
Attunity Connector	No	Yes
Data Federator	No	Yes
DB2 (Linux, UNIX, Windows)	Yes	Yes
HP Neoview	No	Yes
HP Vertica	No	Yes
Informix	Yes	Yes
Microsoft SQL Server	No	Yes
My SQL	Yes	Yes

Database	DSN	DSN-less
Netezza	Yes	Yes
ODBC	No	Yes
Oracle	Yes: TNS	Yes: TNS-less
SAP HANA	Yes	Yes
SQL Anywhere	Yes	Yes
Sybase ASE	No	Yes
SAP IQ (Sybase IQ)	Yes	Yes
Teradata	Yes	Yes

Note

Current lists of supported databases and versions for repository or sources and targets are available in the Product Availability Matrix (PAM) at <https://help.sap.com/viewer/disclaimer-for-links?q=https%3A%2F%2Fapps.support.sap.com%2Fsap%2Fsupport%2Fpam%3Fhash%3Dpvr%253D67838200100900005703>.

Related Information

[Preparing a TNS or DSN database connection \[page 56\]](#)

3.4 Prerequisites to use bundled database for CMS with HANA/MySQL as repository

Prerequisites to perform before you deploy SAP Data Services.

If you plan to use the bundled Sybase SQL Anywhere database server for the Central Management Server (CMS) with a HANA or MySQL database as your Data Services repository, complete the following prerequisites:

- Find out which \$ODBCINI variable to use for the BI or IPS SQLA. Options include either a self-defined variable or the one that is bundled with your BI or IPS installation. The default BI or IPS installation location is:
`<BIP_INSTALL_DIR>/odbc.ini.`
- After you choose the \$ODBCINI variable, make sure that you use the same variable for BI or IPS SQLA for Data Services.

3.5 Disable 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 Information Platform Services (IPS), check the SSL protocol by following these steps:

1. Select **Start** > *SAP Business Intelligence* > *Central Configuration Manager*.
2. Open the *Protocol* tab.
3. Make sure *Enable SSL* is not checked.

For more information about 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*

i Note

Topic titles are subject to change.

4 Installation

You can run the installation program several ways:

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

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

4.1 Interactive installation using default configuration

During installation, you can choose the [Install with default configuration](#) option in the installation type screen to set up the Data Services repository and Job Server.

The installer performs the following tasks during installation:

- Creates the repository tables in the repository database.
- Associates the repository with a Job Server, if you create one later in the installation.
- Registers the repository in the BI platform Central Management Console (CMC).

Choosing to install Data Services using the default configuration enables you to log in to the Designer and execute jobs immediately after installing.

Related Information

[Interactive installation without configuration \[page 40\]](#)

4.1.1 Running an interactive installation with default configuration

When you install Data Services using the default configuration, you can accept the default settings for most options. (UNIX/Linux).

Log on and load, mount, or download the SAP Data Services installation media. Ensure that `LC_ALL` is set to a supported UTF-8 character set, such as `en_US.utf8`.

For example:

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

The program saves the installation log file to `<INSTALL_DIR>/InstallData/logs/<DATE>/InstallDU<COMPONENT>.log`.

i Note

The installation program requires a minimum of 80 columns and 30 rows to display correctly. If you are running the program in a terminal application, be sure to set the window size accordingly.

1. Change to the directory containing the `setup.sh` installation program.
Set the destination folder from a command line using the `InstallDir=<DESTINATION_DIR>` parameter.
For example, to install the Data Services system into the `/opt/sap` directory, use the command `./setup.sh InstallDir=/opt/sap`.
The installation program starts and the pre-installation information screen appears.
2. Press `[Enter]` to continue the installation.
The destination folder selection screen appears.
3. Review the destination folder shown.
This is the folder into which the installation program will install Data Services. If the folder does not exist, the installation program creates it.
The prerequisite check screen appears.
4. The installation program checks for required components. Review the results and decide whether to continue the installation, or cancel the installation and correct any unmet requirements. To view the temp install log, use the command: `/tmp/<date>/setup*.log`
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 process or stop and correct the condition. The installation program provides information about how to correct the condition.
During a silent installation, the installation program does not display the results of dependency prerequisites. See [Running a silent installation \[page 42\]](#) for more information.
The welcome screen appears.
5. Review the welcome screen.
The license agreement screen appears.
6. Review and accept the license agreement.
The user information screen appears.

7. Enter the product keycode you purchased.

➔ Tip

Store the keycode in a safe place in case you need to reinstall the software.

The language selection screen appears.

8. Select a language from the list to install support for that language.

The software automatically selects the language currently being used by the operating system. You cannot deselect the English language because the English language is used if a problem is detected with an individual language.

The Central Management Server (CMS) selection screen appears.

9. Choose whether to specify the CMS administrator login information.
 - Choose *Specify CMS*: Complete the options based on the option descriptions in [Specify CMS \[page 37\]](#).
 - Choose *Skip CMS*. The installation program continues without presenting the options to create a CMS. If you select this option, continue with the installation following the steps in [Running an interactive installation without configuration \[page 41\]](#).

For important information about choosing the option to skip CMS, see [Skip CMS \[page 38\]](#)

If you select *Specify CMS*, the installation type screen appears.

10. Select *Install with default configuration*.

i Note

If you choose *Skip CMS*, the installation defaults to *Install without configuration* and skips this step. Continue with the steps in [Running an interactive installation without configuration \[page 41\]](#)

The feature selection screen appears.

11. Select the Data Services components that you want to install. See [Data Services component descriptions \[page 39\]](#).

The specify local repository database type screen appears.

12. Select the repository database type.

The repository database connection screen appears.

13. Create a new local repository following the steps in [Creating a local repository during installation \[page 40\]](#).

When you create a local repository during installation, the installation program performs the following tasks:

- Creates the repository tables in the repository database.
- Associates the repository with the Job Server (if you selected Job Server in the feature selection screen).
- Registers the repository in the BI platform Central Management Console (CMC).

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

i Note

You can optionally skip the repository configuration and configure repositories after installation.

The start installation confirmation screen appears.

14. Press to begin the installation process.

The installation completion screen appears.

During installation, the progress bar illustrates the progress of the installation as a whole. During the installation process, the installation program saves your installation selections in a cache, transfers files, and performs additional configuration actions.

i Note

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 Specify CMS

During an interactive installation, enter administrator-level connection information for your Central Management Server (CMS).

The installation program guides you through setting up Data Services InfoObjects, Adaptive Processing Server (APS) services, and Management Console features.


Enter A CMS user name that has administrative privileges to validate the CMS and perform necessary checks for deployment.

i Note

To use Data Services for certain administrative tasks, you must have at least one CMS in your landscape. For example, use Data Services to register a repository in CMS, or use the Designer, Workbench, or Management Console features. The landscape is where Data Services InfoObjects are deployed via EIM APS Services or Management Console feature deployment on Windows or Unix/Linux server.

Specify CMS option descriptions

Option	Description
<i>System</i>	Name of the host machine where the Central Management Server (CMS) is installed.
<i>Enables SSL</i>	Specify whether the CMS uses Secure Socket Layer (SSL). ⚠ Restriction SSL is not supported during Data Services installation.
<i>User</i>	User name of the administrative CMS user. The default is Administrator.
<i>Password</i>	Password for the CMS user. The password for the default Administrator account is defined during the BI platform installation process.

Option	Description
<i>Authentication mode</i>	<p>Authentication mode used by the CMS.</p> <div>  Restriction Data Services only supports the Enterprise authentication method during installation. </div>

Caution

The installation program restarts the Server Intelligence Agent (SIA) before it continues with the installation. Therefore, ensure that the SIA is not in use and that the input file repository server is enabled and can start automatically before proceeding.

Related Information

[Running an interactive installation with default configuration \[page 35\]](#)

4.1.3 Skip CMS

If you choose *Skip CMS* during the interactive installation, ensure that the Adaptive Processing Server (APS) services, which are required for Data Services and Information Steward product usage, are deployed to at least one CMS in your landscape.

When you choose *Skip CMS*, the installation type screen is not displayed because the installation type defaults to *Install without configuration*. For Install without configuration, the installer skips repository and Job Server configuration. Therefore, after installation, configure a repository and register it to the CMS and Job Server so that you can use Data Services.

Restriction

If this is the only system where Data Services is installed or if this is the only system that hosts Information Steward, do not select the *Skip CMS* option.

Related Information

[Running an interactive installation with default configuration \[page 35\]](#)

4.1.4 Data Services component descriptions



During an interactive installation, you select the Data Services components to install. The following table provides descriptions for the Data Services components.

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).

Tip

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

Component	Description
Job Server	<p>The Job Server starts engine processes to perform data extraction, transformation, and movement.</p> <div> Note You can also configure the Job Server after installation.</div>
Management Console	The Management Console includes web applications that provide browser-based administration, analysis, and reporting capabilities for Data Services.
APS Services	The Adaptive Processing Server (APS) services are deployed on the BI (or IPS) platform and provide Data Services with basic administration, metadata browsing, view data, data quality, and RFC server capabilities. These services are used by Data Services and other applications such as SAP Information Steward.
Message Client	The Message Client API provides C++ and Java APIs that allow you to connect to Data Services real-time services with external applications.
Text Data Processing Languages	<p>Supports processing of unstructured text in multiple languages.</p> <div> 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.</div>
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/bods .

Related Information

[Running an interactive installation with default configuration \[page 35\]](#)

4.1.5 Creating a local repository during installation

Steps to create a local repository during an interactive installation of Data Services with the default configuration.

Follow the steps in [Running an interactive installation with default configuration \[page 35\]](#) until you get to the step to create a new local repository. Then perform the following steps:

1. Choose the database type that you want to use to host the repository.
2. If you choose SAP HANA, MySQL, or Oracle database type, specify the location of the database JDBC driver files.

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

3. If you choose SAP HANA, MySQL, and SQL_Anywhere, specify the driver name which is used for the DSN-Less configuration connection string. You can leave it set to the default value.
4. 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.

i Note

You can also use the database server bundled with the BI platform to host the Data Services repository. for more information about using the bundled database, see [Configuring the bundled database \[page 27\]](#).

The software creates the new repository and the start installation confirmation screen appears. Continue following the steps in [Running an interactive installation with default configuration \[page 35\]](#).

4.2 Interactive installation without configuration

During installation, you can choose to install Data Services without configuration, meaning you install without configuring the Data Services InfoObjects, Adaptive Processing Server (APS) and Management Console.

Typically, you would choose to install Data Services without configuration to install the Data Services client feature on Windows or to install the Job Server standalone feature on a Windows or Unix/Linux server.

After installing without configuration, you must ensure that the Adaptive Processing Server (APS) Services, which are required for Data Services and Information Steward product usage, are deployed to at least one CMS in your landscape.

During this type of installation, the installation program does not present the screens to create a local repository or set up the repository database connection.

Related Information

[Running an interactive installation without configuration \[page 41\]](#)

4.2.1 Running an interactive installation without configuration

Instructions to run an interactive installation without configuring the repository and Job Server.

Follow the steps in [Running an interactive installation with default configuration \[page 35\]](#), however, choose *Skip CMS* when the Central Management Server (CMS) connection screen appears.

i Note

If you select *Specify CMS* in the CMS connection screen and continue, the installation type screen appears, where you choose to install with or without configuration. However, when you select *skip CMS*, the installation program automatically chooses the option to *install without configuration*, and skips to the feature selection screen.

i Note

For important information about choosing the option to skip CMS, see [Skip CMS \[page 38\]](#).

1. In the feature selection screen, select the Data Services components that you want to install. See [Data Services component descriptions \[page 39\]](#) for component descriptions.
The configuration reuse screen appears.
2. To reuse configurations from a previous installation, select *Reuse an existing configuration* and navigate to the location of the `DSConfig.txt` from the previous installation. To skip configuration, select *Skip configuration*.

i Note

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

The start installation confirmation screen appears.

3. Press `Enter` 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.

4.3 Running a silent installation

A silent installation is when you install Data Services by entering commands into a command-line. Every option in the installation wizard can be given from the command-line.

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

Related Information

[Installation option parameters \[page 45\]](#)

[Response file example \[page 51\]](#)

4.3.1 Installation options on 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.sh [...] DSConfigJSPort=3501 [...]
```

4.3.2 Installation options in a response file

Installation options can be stored in a response file, which is a text file containing installation option parameters in key-value format.

When using a response file to give installation options, the installation program is run from the command-line with the `-r <RESPONSE_FILE>` parameter, where `<RESPONSE_FILE>` is the name of the response file.

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

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

4.3.3 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
<code>-w <FILENAME></code>	Writes a response file to <code><FILENAME></code> , containing the options selected from the installation wizard.	<code>./setup.sh -w "\$HOME/response.ini"</code>
<code>-r <FILENAME></code>	Reads installation options from a response file named <code><FILENAME></code> .	<code>./setup.sh -r "\$HOME/response.ini"</code>
<code>-q</code>	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.	<code>./setup.sh -q -r "\$HOME/response.ini"</code>

4.3.3.1 Using a response file

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

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

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

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

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

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

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

Related Information

4.3.3.1.1 Writing a response file

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

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

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

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

i Note

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

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

```
./setup.sh -r $HOME/response.ini DSCMSPassword=<password>
```

4.3.3.1.2 Reading 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 `$HOME/response.ini`, but overrides the response file's setting for the installation destination folder:

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


4.3.3.2 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 `$HOME/response.ini` and overrides the installation destination folder (set to `/opt/sap/sap_bobj` instead of the current working folder).

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

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.

4.3.4 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.

Installation option parameters

Parameter	Description
<code>SetupUILanguage=<CODE></code>	Determines the language for the installation program to use during the installation. Substitute the language code where <code><CODE></code> is: <ul style="list-style-type: none">English: EN
<code>InstallDir=<PATH></code>	Destination folder into which the installation program will install the software.
<code>SelectedLanguagePacks=<CODE></code>	Installs language support for users and administrators to interact with SAP Data Services in a supported language. If more than one language pack is to be installed, use a semi-colon delimited list without spaces, within quotes, to separate each code. In the following example, language support for English will be installed: <pre>SelectedLanguagePacks="en"</pre> <p>Substitute the following language codes where <code><CODE></code> is:</p> <ul style="list-style-type: none">English: ENJapanese: JATurkish: TR

Parameter	Description
ProductKey=<KEY>	Product license key issued when you purchased the software. Substitute <KEY> with the product key in the format XXXXX-XXXXXX-XXXXXX-XXXX.
ChooseSLDIntegration=<VALUE>	Determines whether SAP System Landscape Directory (SLD) support will be enabled or not. To enable SLD integration, set <VALUE> to integrate. To disable SLD integration, set <VALUE> to nointegrate.
DSCMSAuth=<TYPE>	<p>Authentication type used by the Central Management Server (CMS). Substitute the authentication type where <TYPE> is:</p> <ul style="list-style-type: none"> Enterprise authentication: secEnterprise <div>  Restriction Data Services supports only the Enterprise authentication method during installation. </div>
DSCMSEnableSSL=<SWITCH>	Specifies whether the Central Management Server (CMS) uses SSL security. If the CMS is configured for SSL support, set <SWITCH> to 1. If the CMS is not configured for SSL support, set <SWITCH> to 0.
DSCMSNode=<NODE>	Specifies the node name for the Central Management Server (CMS). Substitute <NODE> with the CMS node name.
DSCMSSystem=<HOST>	Hostname of the Central Management Server (CMS). Substitute <HOST> with the CMS hostname.
DSCMSUser=<USER>	User name for the CMS administrator account. Substitute <USER> with the user name.
DSCMSPassword=<PASSWORD>	Password for the CMS administrator account. Substitute <PASSWORD> with the password.
DSConfigASSelection=<SKIP>	Determines whether to configure a new Access Server during installation. This option is no longer set during installation. Set this option <VALUE> to skip.
DSConfigCMSSelection=<VALUE>	Determines whether to configure InfoObjects and the Management Console on a CMS during installation. To configure CMS-hosted components, set <VALUE> to install. To not configure CMS-hosted components, set <VALUE> to skip.
DSConfigJSSelection=<VALUE>	Determines whether to configure a new Job Server during installation. To configure a new Job Server, set <VALUE> to new. To not configure a new Job Server, set <VALUE> to skip.
DSConfigJSServerName=<NAME>	Server name for the Job Server to create during the installation process. Substitute <NAME> with the Job Server name.
DSConfigJSServerPort=<PORT>	Network TCP listening port number used by the Job Server. Substitute <PORT> with the port number.
DSConfigMergeSelection=<VALUE>	Determines whether the installation program will merge an existing DSConfig.txt configuration file with the new installation configuration. To merge an existing configuration file, set <VALUE> to install. To not merge an existing configuration file, set <VALUE> to skip.

Parameter	Description
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.
DSInstallTypeSelection = <VALUE>	Determines the type of installation to run. To run the installation with default configuration, set <VALUE> to EXPRESS. To run the installation without configuration, set <VALUE> to CUSTOM.
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 and message broker 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.
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 or message broker 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.

Parameter	Description
DSRepoCreateUpgrade=<VALUE>	Determines whether to create or upgrade a Data Services local repository during the installation process. To create a new local repository, set <VALUE> to Create.
DSRepoDBDataSource=<blank>	Stores the ODBC System DSN. This option no longer used.
DSRepoDBHost=<HOST>	Hostname for the database server that will contain the Data Services repository. Substitute <HOST> with the hostname.
DSRepoDBName=<NAME>	Database name for the database that will contain the Data Services repository. Substitute <NAME> with the database name.
DSRepoDBPasswd=<PASSWORD>	Password for the database account that will be used to access the repository database. Substitute <PASSWORD> with the account password.
DSRepoDBPort=<PORT>	Network TCP listening port number used by the database that will host the Data Services repository. Substitute <PORT> with the port number.
DSRepoDBType=<TYPE>	Type of database that will host the Data Services repository. Substitute the database type where <TYPE> is: <ul style="list-style-type: none"> • MySQL: MySQL • Oracle: Oracle • DB2: DB2 • SAP HANA: HANA • SAP Sybase SQL Anywhere: SQL_Anywhere • SAP 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.
DSRepoDBVersion=<VALUE>	The version of the database that will host the Data Services repository. Substitute the database version where <VALUE> is: <ul style="list-style-type: none"> • Oracle 10g: ORACLE10 • Oracle 11g: ORACLE11 • DB2 UDB 9.x: DB2V9 • DB2 UDB 10.x: DB2V10 • MySQL 5.0: MYSQL5v1 • MySQL 5.1: MYSQL5v2 • MySQL 5.5: MYSQL5v5 • HANA 1.x: HANA • SQL Anywhere 12.x: SQLANYWHERE12 • SQL Anywhere 16.x: SQLANYWHERE16
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.
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.

Parameter	Description
DSRepoWindowsAuth=<SWITCH>	Specifies whether or not the repository database uses Windows authentication. If the database uses Windows authentication, set <SWITCH> to 1. If the database uses a different authentication method, set <SWITCH> to 0.
DSVDSJMXPort=<PORT>	Network TCP listening port number used by the Viewdata Service for the JMX connector. Substitute <PORT> with the port number.
DSVDSPort=<PORT>	Network TCP listening port number used by the Viewdata Service. Substitute <PORT> with the port number.
Features=<CODE>	<p>List of components to install. To select multiple features, use a comma-delimited list without spaces to give each code. In the following example, the Job Server and Access Server will be selected for install:</p> <pre>Features=DataServicesJobServer,DataServicesAccessServer</pre> <p>For a complete list of feature codes, see Feature codes [page 50].</p>
DSNewCommonDir=<new_location>	<p>Enter a new location for the Data Services common directory.</p> <p>Windows only. Use for an upgrade installation when you want to change the location of the DS_COMMON_DIR. The new location must have access rights for all users, must be a fixed local drive, and must have sufficient disk space to contain the configuration and log files.</p> <p>The common directory contains configuration files and log files that the software components read from and write to during installation, upgrade, and runtime. The software moves all folders and sub folders to the new location from the existing location except for the files in the log folder (and sub folders). The installer creates a log folder in the new location, but does not automatically move the files. The new log folder is empty except for log files from the installation/update that you just performed. You can move the contents of the previous log folder to the new log folder.</p>
ISCommonDirChanged=0 or 1	<p>Enter 0 or 1.</p> <p>Windows only. Use only during a new or an upgrade installation to indicate if you changed the location of the DS_COMMON_DIR.</p> <ul style="list-style-type: none"> 0 = Did not change location 1 = Changed location
DSCommonDir=<default_location> or <new_location>	<p>Enter either the Data Services default location or a new location.</p> <p>Windows only. Use for a fresh installation of Data Services.</p>

4.3.4.1 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 (Designer and Workbench)
 - DataServicesManagementConsole
 - DataServicesEIMServices: install services to the Adaptive Processing Server (APS)
 - DataServicesMessageClient
 - TextDataProcessingLanguages: install all text data processing languages
 - TextDataProcessingArabic
 - TextDataProcessingBokmal
 - TextDataProcessingCatalan
 - TextDataProcessingCroatian
 - TextDataProcessingCzech
 - TextDataProcessingDanish
 - TextDataProcessingDutch
 - TextDataProcessingFarsi
 - TextDataProcessingFrench
 - TextDataProcessingGerman
 - TextDataProcessingGreek
 - TextDataProcessingHebrew
 - TextDataProcessingHungarian
 - TextDataProcessingItalian
 - TextDataProcessingJapanese
 - TextDataProcessingKorean
 - TextDataProcessingNynorsk
 - TextDataProcessingPolish
 - TextDataProcessingPortuguese
 - TextDataProcessingRomanian
 - TextDataProcessingRussian
 - TextDataProcessingSerbian

- TextDataProcessingChinese (Simplified Chinese)
- TextDataProcessingSlovak
- TextDataProcessingSlovenian
- TextDataProcessingSpanish
- TextDataProcessingSwedish
- TextDataProcessingThai
- TextDataProcessingTChinese (Traditional Chinese)
- TextDataProcessingTurkish
- DataServicesDataDirect: install the DataDirect ODBC driver manager library
- DataServicesDocumentation: install documentation files

4.3.4.2 Response file example

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

Example

In this example, the response file is named `$HOME/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=*****
### #property.CMSServerName.description#
dscmssystem=localhost
### #property.CMSUser.description#
dscmsuser=Administrator
### #property.DSConfigASCommPort.description#
dsconfigascommport=4000
### #property.DSConfigASDirectory.description#
dsconfigasdirectory=/opt/sap/sap/dataservices/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=/opt/sap/sap/dataservices/Log/pCache
### #property.DSJSDetailCommPort.description#
dsjsdetailcommport=4001
### #property.DSJSDetailEnableSSL.description#
dsjsdetailenabessl=1
### #property.DSJSDetailEndPort.description#
dsjsdetailendport=32767
### #property.DSJSDetailStartPort.description#
dsjsdetailstartport=1026
### #property.DSJSDetailSupportComm.description#
dsjsdetailsupportcomm=0
### #property.DSJSPCACHEEnableSSL.description#
dsjspcacheenabessl=1
### #property.DSLoginInfoAccountSelection.description#
dslogininfoaccountselection=this
### #property.DSLoginInfoThisPassword.description#
dslogininfothispassword=*****
### #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#
dsrepooracleac=No
### #property.DSRepoOracleSID.description#
dsrepooracleid=
### #property.DSRepoSelection.description#
dsreposelection=existing
### #property.DSRepoWindowsAuth.description#
dsrepowindowsauth=0
### JMX connector
dsvdsjmxport=8899
### Viewdata service port
dsvdsport=9988
### Installation folder for SAP products
installdir=/opt/sap/sap_bobj/
### 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 ***
setupuillanguage=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,DataServicesRFCService,DataServicesAdminService,DataServicesMetadataService,DataServicesViewdataService,DataServicesMessageClient,TextDataProcessingEnglish,DataServicesDocumentation

```

5 Post-Installation

There are several tasks that you perform after the installation program has finished.

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.

For your reference, the installer saves a copy of the post installation instructions in the following location:

`<DS_COMMON_DIR>/log/PostInstallationInstructions.txt`

5.1 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, read about configuring servers for SSL in the *SAP Data Services Administrator Guide* for the platform you are using:

- *Information platform services Administrator Guide*
- *Business Intelligence Platform Administrator Guide*

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

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

1. Download the JDBC driver for your database to a location on the Data Services host system.
2. Copy the JDBC driver to all locations required by Data Services.
 - For the SAP HANA database:
 - `<LINK_DIR>/ext/lib`
 - `<BIP_INSTALL_DIR>/java/lib/bundles`

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

Related Information

[WDeploy \[page 79\]](#)

5.3 Configuring repositories

If you did not configure a repository for the bundled database server, or any other supported third-party database server during installation, manually configure the repository after installation.

Before you can use the Data Services system, configure the repository and register it in the Central Management Console (CMC).

The Data Services installation program configures any supported third-party database servers, including the bundled database server, when:

- you choose the interactive installation with default configuration
- you enter the database information

If you skipped the repository creation, manually configure the database for the repository using the following process:

1. Create a database for the repository on your database server.
2. Create the repository in the database with the Data Services Repository Manager.
3. Register the repository in the CMC with the [Data Services](#) application.
4. Assign user access to the repository in the CMC with the [Data Services](#) application.
5. Associate the repository with the Job Server.

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

5.4 Preparing a TNS or DSN database connection

If you do not want to use a TNS-less or DSN-less connection for your repository, defer repository creation until after installation.

If you choose not to use a server name connection, prepare the database connection to use a TNS or DSN connection after installation, and create your repository using the Repository Manager.

1. On Windows, open the Repository Manager UI located under your Data Services installation directory. On Unix, invoke the Repository Manager.
2. On Windows, select the option *Use data source name (DSN)*. On Unix, use the *s* option.
3. After you complete all of the applicable options, save your repository and close the Repository Manager.
4. Log in to the Central Management Console (CMC) to register the repository and select the repository connection type in *Data Services Repository Properties*.
 - For an Oracle database, select *Yes* in the dropdown list for *Use TNS name*.
 - For a DB2, MySQL, or SAP HANA database, select *Yes* in the dropdown list for *Use data source name (DSN)*.

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.

5.5 Configuring users and groups

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

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

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

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

5.6 Configuring Job and Access Servers

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

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

1. Add and configure Job Servers with the Server Manager.

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

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

5.7 Configuring profiler repository connectivity

Use the CMC to configure profiler repository connectivity for the Designer.

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 using the Connection Manager.

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.

5.8 Deploy web applications with WDeploy

Use WDeploy to deploy and undeploy web applications to your java-based web application server.

WDeploy is included with the BOE Platform or IPS installation. The Tomcat web server is also included with the installation. When you use Tomcat as your web server, SAP Data Services automatically deploys web applications during installation. If you use a different web application server, you deploy web applications to your web application server using WDeploy.

Note

If you use SAP NetWeaver as your web application server, you use WDeploy for a different purpose, and you follow a different process to deploy web applications.

The WDeploy tool has two interfaces from which to choose:

- Command line WDeploy: A traditional, text-based interface that processes commands and parameters given in a command prompt.
- Graphical user interface (GUI) WDeploy: A console-based guided assistant similar to the BI Platform or IPS installation program, which prompts you to enter deployment parameters.

Use the WDeploy GUI to run `deployall` and `undeployall` commands. Use the command-line WDeploy when you have more advanced processes to perform for web applications.

For instructions about using WDeploy to deploy web applications with a web server other than Tomcat, see WDeploy in the Additional Information section.

Related Information

[WDeploy \[page 79\]](#)

[Deploy Data Services Web applications on SAP NetWeaver 7.3 \[page 90\]](#)

5.9 Connecting to Hadoop

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

Data Services also supports Hadoop on the Windows platform (Hortonworks HDP 2.2.6 only).

For information about deploying SAP Data Services on a Hadoop MapR cluster machine, see SAP Note [2404486](#)



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

5.10 Troubleshooting installation problems

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

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

5.10.1 Repository problems

Common repository-related installation errors include:

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

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

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

5.10.2 Windows and UNIX issues

There are several small (and easily resolved) installation issues that can occur when you install Data Services on Windows or UNIX/Linux.

5.10.2.1 File or application in use

Windows 7 or Windows Server 2008.

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

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

5.10.2.2 Update to file access rights failed

Windows 7 or Windows Server 2008.

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

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

For example, on Windows Server 2008:

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

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

5.10.2.3 Windows 2012 Datacenter error

Error: SAP Data Services Designer - Cannot open trace file.

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

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

5.10.2.4 The xml mapping file can not be found or loaded

Applicable when you install Data Services 4.0 Service Pack 2 on top of Data Services 4.0 (and Service Pack 1 is not installed).

When you install Data Services under this circumstance, you might get an error message telling you that the installer could not find or load the xml mapping file.

To resolve this issue, run a Repair installation:

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

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

Applicable when you install Data Services 4.0 Service Pack 2 on top of Data Services 4.0 (and Service Pack 1 is not installed).

When you install Data Services under this circumstance, 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"`

5.10.2.6 Installation is slow

Applicable for Data Services 4.2 Service Pack 2 and Data Services 4.2 Service Pack 2 Patch 1.

When you install Data Services under this circumstance, on a machine with BOE or IPS, make sure that you enter your CMS logon information during installation. If you don't, the installation process may take longer than normal to run.

This can happen in the following installation scenarios:

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

5.10.2.7 Failure in CMS connection when installing from UNC path

Applicable when you launch Data Services setup executable from the UNC path `\\machinename\...\...`

A failure might occur in the CMS connection screen when you launch the 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 install package to a local file system, or map to a local drive, and launch the package from a local file system or mapped local drive.

5.10.2.8 Can't 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.

i 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.

5.10.2.9 Trouble with update install

You might get an error while performing an Update installation while you have SAP Data Services applications open in a current user session or in other user session.

As a result, Data Services applications may not launch correctly or you might get an error telling you that you have missing files.

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

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

5.10.2.10 Trouble with modify install

Features are not enabled or installed.

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

1. Go to ► [Start](#) ► [Control Panel](#) ► [Programs and Features](#) ►.
2. Right-click on the current version of Data Services and click [Uninstall/Change](#) and select [Repair](#).
3. Click [Next](#) and then click [Back](#).
4. Click [Modify](#) and then click [Next](#).

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

To resolve this issue, do the following:

1. Click [Cancel](#) and then [Exit Setup](#) to exit the current maintenance installation window.

2. Re-launch the maintenance installation.
3. Click [Modify](#) and then click [Next](#). This refreshes the feature tree selections and correctly displays the installed features as checked.
4. Run a Modify installation by adding or removing features as needed.

5.10.2.11 Requirement to launch Install IPS executable

The Install IPS executable is generated by Visual Studio 2005, and therefore, it has a dependency on Microsoft Visual C++ 2005 Redistributable Package.

Because of this dependency, you may have a problem launching the `installIPS.exe` or `InstallIPSOEM.exe` (for OEM customers) program.

Before you launch the Install IPS program, follow these steps:

1. Download and install `vcredist_x64.exe` on your system. `vcredist_x64.exe` is a redistributable library from Microsoft. Get it from the Microsoft website or from the Data Services Deployment Unit at `<top package level>\dunit\tp.microsoft.vcredist-8.0-core-64\actions`.
2. Double-click on `InstallIPS.exe` to launch the package.

Go to <http://blogs.msdn.com/b/nikolad/archive/2005/09/02/running-c-application-built-by-vc-express-on-another-computer.aspx> for more information.

5.10.2.12 Missing Data Services icon on the CMC

Applicable if the Data Services icon is missing in the Central Management Console (CMC).

Some users have noticed that the Data Services icon is missing in their CMC. This can happen if there are trailing spaces in the CMC name in the installer. You can fix this by opening the installer and removing the trailing spaces from the CMS name.

5.10.2.13 Cleansing Package installation tips

There was a change in how you install the Cleansing Package files that Data Services needs.

Previously, you had to load the predefined shipped cleansing packages into the Data Services repository to install them. Currently, the cleansing package files are installed by the SAP Data Quality Management Cleansing Packages installer. These cleansing packages are stored in the Information platform services or Business Intelligence platform as InfoObjects.

i Note

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

Follow the steps below to verify that you have the cleansing packages installed correctly:

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.

5.10.2.14 Special character(s) in install path

If there are special characters in the installation path for Data Services, the installation pre-requisite checks will fail.

For example, the special characters in `D:\[install]\` (the brackets) will cause a check to fail.

Remove special characters from path names to resolve this issue.

5.10.2.15 Incorrect message displayed for UNIX installation

An incorrect message may appear at the end of a UNIX installation.

The message displayed at the end of a UNIX install or uninstall may be incorrect. Make sure that you press *Enter* at the end, even if the message says to click *Finish*.

5.10.2.16 Error Linux/UNIX install directory on NSF file system

Run Data Services UNIX/Linux installation on a physical drive.

If you install Data Services in UNIX/Linux into a Network Shared Folder (NFS) file system, you may see an error. Resolve the error, and get better run-time performance by installing Data Services on a physical drive for UNIX/Linux.

5.11 Making changes to your Data Services system

5.11.1 Removing SAP Data Services

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

i Note

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

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

1. Change directory to `<INSTALL_DIR>`.
2. Run the command `./modifyOrRemoveProducts.sh` to start the removal program.
Log files, configuration files for web applications, and web applications will not be removed by the removal program. Any remaining folders can be removed manually with the `rm -R <DIR>` command.

The software has been removed from the host system.

5.11.2 Running a silent uninstallation

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

i Note

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

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

To run a silent uninstallation:

1. Change to the directory containing the `setup.sh` installation program.
2. To create a response file that will be used to run the uninstallation, run the command `./setup.sh -w <response file path>/<response file name>` (for example, `InstallDir=/opt/sap/sap_bobj/`)
Data Services will go into maintenance mode.
3. Select Remove from the menu and follow the options included in the wizard.
4. Open the response file and change the password from `<*****>` to your Data Services password.
5. Run the command `./setup.sh -r <response file path> <response file name>` (for example, `InstallDir=/opt/sap/sap_bobj/`)

5.11.3 Installing new or additional features (Linux)

New or additional features can be installed from a fresh installation by selecting any additional features from the installer [Select Feature](#) window. If you upgrade an existing installation, you must run the Modify Installation script to add (or remove) new features as applicable.

After upgrading the application:

1. Change directory to `<INSTALL_DIR>`.
2. Run the command `./modifyOrRemoveProducts.sh` to start the modify program.

-
3. Enter the password for the Central Management Server (CMS) administrator user, and then press [Enter](#).
 4. Select any features you want to install, and then press [Enter](#).

6 Additional Information

6.1 Directory data

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

6.1.1 Directory listing and update schedule

For detailed information about directories, see the latest directories update on the SAP Help Portal. Open <http://help.sap.com/bods>, select *Additional Information*, and scroll down to *Addressing Directories*. Open the documentation link for Help Portal Analytics Knowledge Center.

For more information about the directory release schedule, see SAP Knowledge Base Article [2281775](#).

All World

Lastline data for over 200 countries.

Package name	Directory filename	Approximate size	Updated
SAP ADDR DIR ALL WORLD	ga_all_world_gen.dir	3.18 GB	Monthly

Australia

Package name	Directory filename	Approximate size	Updated
SAP ADDR DIR AUSTRALIA	ga_au_paf.dir	4.24 GB	Monthly

Canada

Package name	Directory filename	Approximate size	Updated
SAP ADDR DIR CANADA	<p><i>POC address data:</i></p> <ul style="list-style-type: none"> • canadapoc.dir • cancitypoc.dir • canfsapoc.dir • canpcipoc.dir • canpcm.dir <p><i>Non-POC address data:</i></p> <ul style="list-style-type: none"> • canada.dir • cancity.dir • canfsa.dir • canpci.dir 	139 MB	Monthly

Geocoder

Package name	Directory filename	Approximate size	Updated
SAP GEOPARC AUSTRALIA - HERE (Parcel)	geo_au_nt.dir	6.2 GB	Quarterly
SAP GEO DIR CANADA - HERE	geo_ca_nt.dir	4.6 GB	Quarterly
SAP GEO DIR FRANCE - HERE	geo_fr_nt.dir	9.2 GB	Quarterly
SAP GEO DIR GERMANY - HERE	geo_de_nt.dir	5.5 GB	Quarterly
SAP GEO DIR SWITZERLAND - HERE	geo_ch_nt.dir	907 MB	Quarterly
SAP GEO DIR UK - HERE	geo_gb_nt.dir	2.8 GB	Quarterly
SAP GEO DIR US - HERE	AdvancedGeoFeatures.ZIP Includes: <ul style="list-style-type: none"> • geo_us_nt.dir • basic_geo_us_nt.dir 	15 GB	Quarterly
	geo_us_nt.dir	544 KB	
	ageo*.dir	4 GB	
	cgeo2.dir	820 MB	

Package name	Directory filename	Approximate size	Updated
SAP GEO PARCEL US - HERE	AdvancedGeoFeatures. ZIP Includes: <ul style="list-style-type: none">• geo_us_nt.dir• basic_geo_us_nt.dir	23 GB	Quarterly
	geo_us_nt.dir	544 KB	
	ageo*.dir	4 GB	
	ageo*_pt.dir	4 GB	
	cgeo2.dir	820 MB	
SAP ADDR GEO US - TOMTOM (Address-Level GeoCensus)	ageo*.dir	7 GB	Quarterly
	geo_us_nt.dir	544 KB	
SAP GEO DIR AUSTRIA - TOMTOM	geo_at_tt.dir	1.31 GB	Quarterly
SAP GEO DIR BELGIUM - TOMTOM	geo_be_tt.dir	1.13 GB	Quarterly
SAP GEO DIR DENMARK - TOMTOM	geo_dk_tt.dir	935 MB	Quarterly
SAP GEO DIR ESTONIA - TOMTOM	geo_ee_tt.dir	147 MB	Quarterly
SAP GEO DIR FINLAND - TOMTOM	geo_fi_tt.dir	1.37 GB	Quarterly
SAP GEO DIR ITALY - TOMTOM	geo_it_tt.dir	6.16 GB	Quarterly
SAP GEO DIR LIECHTENSTEIN - TOMTOM	geo_li_tt.dir	6.22 MB	Quarterly
SAP GEO DIR LITHUANIA - TOMTOM	geo_lt_tt.dir	177 MB	Quarterly
SAP GEO DIR LUXEMBOURG - TOMTOM	geo_lu_tt.dir	6.98 MB	Quarterly
SAP GEO DIR NETHERLANDS - TOMTOM	geo_nl_tt.dir	1.6 GB	Quarterly
SAP GEO DIR NORWAY - TOMTOM	geo_no_tt.dir	1 GB	Quarterly
SAP GEO DIR POLAND - TOMTOM	geo_pl_tt.dir	1.9 GB	Quarterly
SAP GEO DIR PORTUGAL - TOMTOM	geo_pt_tt.dir	1.2 GB	Quarterly

Package name	Directory filename	Approximate size	Updated
SAP GEO DIR SPAIN (PARC) - TOMTOM	geo_es_tt.dir	8.5 GB	Quarterly
SAP GEO DIR SWEDEN - TOMTOM	geo_se_tt.dir	1.4 GB	Quarterly
SAP GEO DIR TURKEY - TOMTOM	geo_tr_tt.dir	2.5 GB	Quarterly
SAP GEO DIR US (PARC) - TOMTOM	Contains 11 files: <ul style="list-style-type: none"> • ageo1_pt.dir to ageo10_pt.dir • geo_us_nt.dir 	4.4 GB	Quarterly

International

i Note

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

Package name	Directory filename	Approximate size	Updated
SAP ADDR DIR AUSTRIA	ga_at_paf.dir	1.10 GB	Quarterly
SAP ADDR DIR BELGIUM	ga_be_paf.dir	200 MB	Quarterly
SAP ADDR DIR BRAZIL	ga_br_gen.dir	1.54 GB	Quarterly
SAP ADDR DIR BULGARIA	ga_bg_paf.dir	765	Quarterly
SAP ADDR DIR CHINA	ga_cn_paf.dir	3.27 GB	Quarterly
SAP ADDR DIR CZECH REPUBLIC	ga_cz_paf.dir	389 MB	Quarterly
SAP ADDR DIR DENMARK	ga_dk_paf.dir	197 MB	Quarterly
SAP ADDR DIR ESTONIA	ga_ee_paf.dir	22.3 MB	Quarterly
SAP ADDR DIR FINLAND	ga_fi_paf.dir	258 MB	Quarterly
SAP ADDR DIR FRANCE	ga_fr_paf.dir	8.28 GB	Quarterly
SAP ADDR DIR GERMANY	ga_de_paf.dir	2.22 GB	Quarterly
SAP ADDR DIR GREECE	ga_gr_paf.dir	93.3 MB	Quarterly
SAP ADDR DIR HUNGARY	ga_hu_paf.dir	129 MB	Quarterly
SAP ADDR DIR INDIA	ga_in_paf.dir	1.82 GB	Quarterly
SAP ADDR DIR ITALY	ga_it_paf.dir	1.75 GB	Quarterly
SAP ADDR DIR JAPAN	ga_jp_paf.dir	1.08 GB	Quarterly
SAP ADDR DIR LATVIA	ga_lv_paf.dir	12.6 MB	Quarterly
SAP ADDR DIR LITHUANIA	ga_lt_paf.dir	204 MB	Quarterly
SAP ADDR DIR LUXEMBURG	ga_lu_paf.dir	14.7 MB	Quarterly

Package name	Directory filename	Approximate size	Updated
SAP ADDR DIR MEXICO	ga_mx_paf.dir	2.12 GB	Quarterly
SAP ADDR DIR NEW ZEALAND	ga_nz_paf.dir	830 MB	Quarterly
SAP ADDR DIR NORWAY	ga_no_paf.dir	681 MB	Quarterly
SAP ADDR DIR POLAND	ga_pl_paf.dir	310 MB	Quarterly
SAP ADDR DIR PORTUGAL	ga_pt_paf.dir	361 MB	Quarterly
SAP ADDR DIR RUSSIA	ga_ru_paf.dir	19.5 GB	Quarterly
SAP ADDR DIR SLOVAKIA	ga_sk_paf.dir	22.4 MB	Quarterly
SAP ADDR DIR SOUTH KOREA	ga_kr_paf.dir	11.2 GB	Quarterly
SAP ADDR DIR SPAIN	ga_es_paf.dir	1.19 GB	Quarterly
SAP ADDR DIR SWEDEN	ga_se_paf.dir	657 MB	Quarterly
SAP ADDR DIR SWITZERLAND	ga_ch_paf.dir	673 MB	Quarterly
SAP ADDR DIR TURKEY	ga_tr_paf.dir	778 MB	Quarterly
SAP ADDR DIR UNITED KINGDOM	ga_gb_paf.dir	10.6 GB	Quarterly

Netherlands

Package name	Directory filename	Approximate size	Updated
SAP ADDR DIR NETHERLANDS	ga_nl_paf.dir	412 MB	Monthly

U.S.

For more information about the U.S. directory release schedule, see SAP Knowledge Base Article [1639407](#).

Package name	Directory filename	Approximate size	Updated
SAP ADDR DIR US (US National ZIP+4 and eLOT 2009 - Current formats)	ZIP4:	1.64 MB	Monthly
	cityxx.dir		
	revzip4.dir	960 KB	
	zcfxx.dir	2 MB	
	zip4us.dir	741 MB	
	zip4us.rev	93.5 MB	
	zip4us.shs	3.58 MB	
	Enhanced Line of Travel (eLOT) Directory: elot.dir	560 MB	

Package name	Directory filename	Approximate size	Updated
SAP ADDR DIR US - DPV (Delivery Point Validation)	All files	950 MB	Monthly
Early Warning System (EWS) Directory	ewyymmdd.dir	656 KB	
SAP ADDR DIR US - LAC-SLINK (Locatable Address Conversion System)	All files	435 MB	Monthly
SAP ADDR DIR US - RDI (Residential Delivery Indicator)	rts.hs11	16 MB	Monthly
	rts.hs9	32 MB	
SAP ADDR DIR US - SUITE-LINK	All files	1 GB	Monthly
SAP ADDR DIR US - Z4CHANGE	z4change.dir	196 MB	Monthly

6.1.2 Directory summary report

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

6.1.3 U.S. directory expiration

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

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

Note

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

Expiration schedule

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

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

6.1.3.1 U.S. National and Auxiliary files

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

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

Related Information

[Unzipping directory files \[page 76\]](#)

6.1.4 International directory expiration

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

Expiration schedule

Directory	Directory access regulations
Australia	In certified mode, the directories expire 3 months after the directory creation date. In non-certified mode, the directories expire 15 months after the directory creation date.
Canada	In certified mode, the POC directories are valid for 30 days. In order to qualify for the mailing discount, users must run the software with the same-month POC address directory. The POC address data can only be used in certified mode. In non-certified mode, the regular address directories do not expire.
New Zealand	In certified mode, the directories expire 6 months after the directory creation date. In non-certified mode, directory expiration is not enforced.
International	Directory files do not expire.

6.1.5 Where to copy directories

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

Note

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

6.1.5.1 Copying international directory files to a non-default location

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

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

o ga_region.dir

i Note

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

i Note


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

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

6.1.6 Installing and setting up SAP Download Manager

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





To install and set up SAP Download Manager:

1. Access the SAP Support Portal at <https://support.sap.com/> .
2. Select [Download Software](#).
3. At the top of the screen, select [Downloads](#), enter the search term "Download Manager", and click the search icon.
4. Select the version you want to download.
5. Follow the steps to install and set up the SAP Download Manager.

6.1.7 Downloading directory files

The address and geocoding directories are available for download from the SAP ONE Support Launchpad on the SAP Support Portal.

To download directories:

1. Access the SAP ONE Support Launchpad on the SAP Support Portal at <https://launchpad.support.sap.com/#/softwarecenter>  and sign in with your S-User ID and password.
2. Select  [Address Directories & Reference Data](#)  [Address Directories](#) .
3. On the Address Directories & Reference Data page, select [Current Directories](#).

The list of directories licensed to your company is displayed.

4. Click the check box to the left of the directory name(s) that you want to download. To select all directories, click the check box to the left of the [Name](#) heading.
5. Click the [Add Selected Items to Download Basket](#) icon.
The selected files are placed in the Download Basket.

6. Run the Download Manager to start the download process.

6.1.8 Unzipping directory files

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

1. Locate the `<filename>.zip` that you want to unzip.
2. Type `unzip -d <outputfolder> <filename>.zip`.
3. Repeat for each required file.

6.2 High-availability support

If you run SAP Data Services on AIX and you have High Availability Clustered Multi-Processing (HACMP) software version 4.4.0, use HACMP software to minimize downtime of your system. The software includes start and stop scripts that support HACMP software.

About HACMP software

HACMP software makes applications and software systems highly available, restoring essential services when a system component or application fails. To support HACMP software, you replicate software and hardware systems to guarantee backup of essential services. Within HACMP software, you define each complete system as a resource group. When a component fails in a resource group, HACMP software quickly restores essential services by starting the failed system on an alternate computer, called a node, or group of networked computers, called a cluster.

To use HACMP software to make a system highly available:

1. Define the system as a resource group (a logical group that the HACMP software and AIX operating system manages).
2. Install the necessary components to support the system on duplicate hardware systems, creating clusters or nodes that can support identical services that the system processes.
3. Define takeover relationships that determine which cluster or node supports the resource group at any given time. There are three types of takeover relationships:

Cascading Clusters are listed along with a priority rank. Control of the resource group goes to the active cluster with the highest priority ranking. Control can change due to failure or to the reactivation of a cluster with a higher priority rank.

Rotating Clusters are listed along with a priority rank. Control of the resource group goes to the active cluster with the highest priority ranking. Control only changes due to the failure of a cluster.

Concurrent Multiple clusters support the resource group at the same time.

6.2.1 Using the software with HACMP

SAP Data Services contains start and stop scripts that support HACMP software. These scripts run when a new cluster takes control of the software resource group. The start script:

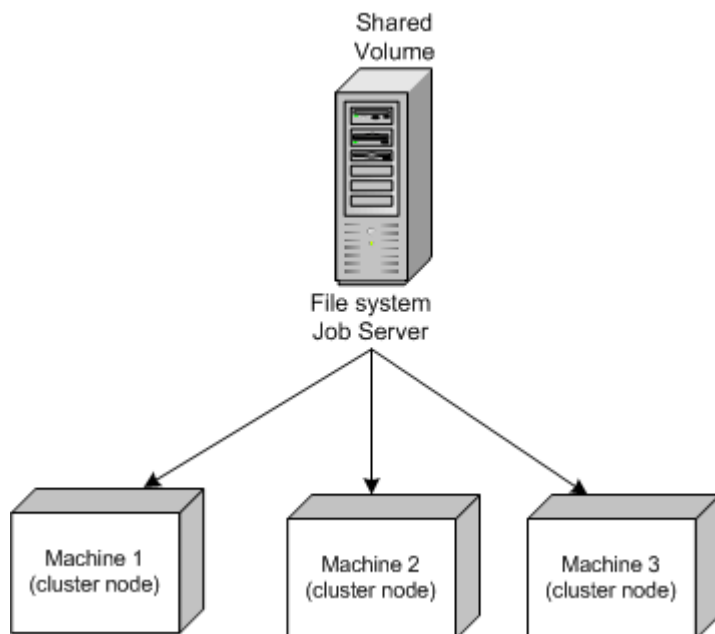
- Identifies jobs scheduled before the previous cluster failed and launches those jobs in recovery mode
- Identifies jobs scheduled to start during cluster down time and launches those jobs
- Synchronizes the `cron` file on the new cluster with the `cron` file on the previous cluster

When using the software with HACMP, you should be aware of several requirements and restrictions:

- There can be no single point of failure, or the additional availability provided by HACMP is compromised.
- You must use the same user ID on all clusters where you install the software.
- The database systems that support jobs—the repository, sources, and targets—must also be highly available.
- You cannot use a concurrent takeover relationship for the software resource group.
- You can use HACMP only with batch jobs.
- You must enable automatic recovery for all scheduled jobs.
- You must also enable the recurrent option for all scheduled jobs.

6.2.1.1 Using the software with HACMP

1. Install the Job Server on a file system in the shared volume group from a single cluster node.
2. On each cluster node, define the same mount point for the file system. SAP Data Services and its configuration is made available for the rest of the cluster nodes.



3. Copy the start and stop scripts (`acta_start.sh` and `acta_stop.sh`) from the [<LINK_DIR>/hacmp](#) directory to the HACMP scripts directory on each of the cluster nodes.

4. In the HACMP software:
 - a. Define the software as a resource group (a logical group that the HACMP software and AIX operating system manages).
 - b. Define takeover relationships that determine which cluster or node supports the software resource group at any given time.
 - c. Designate the start and stop scripts as the start and stop scripts for the software resource group.
5. Configure the software to use HACMP.

6.2.1.2 Configuring the software to use HACMP

1. Run the Server Manager.

```
$ cd $LINK_DIR/bin/
$ . ./al_env.sh
$ ./svrcfg
```

i Note

The second command sets required environment variables before `./svrcfg` starts the Server Manager.

The Server Manager main screen appears.

2. Enter **1** and stop the Job Service.
 3. Enter **7** to configure HACMP.
- The HACMP configuration screen appears.

```
-----
** Current HACMP Configuration for Data Services Resource Group **
-----

Service IP Label                Domain Name
-----
aixserver1                      -----

-----

e: Edit Configuration      y: Re-sync all repos      q: Quit
```

4. Configure HACMP.

Com- mand	Description
E	<p>Specifies the Service IP Label used while configuring the SAP Data Services resource group.</p> <p>When you finish configuration, the software resynchronizes all repositories with the current Service IP Label and domain name. This means:</p> <ul style="list-style-type: none"> ○ The Job Service must be stopped prior to editing the configuration. ○ You must re-add repository connections to the Management Console, reconfigure real-time services and adapters, and reschedule batch jobs.
Y	Manually resynchronizes all repositories.

Com-mand	Description
	<p>i Note</p> <p>Resynchronizing all repositories is not required unless you see an error message after editing the configuration. For example, a repository might not get updated to use the configured Service IP Label if the associated database is unavailable. After correcting the problem, you can use this option to resynchronize the repository.</p>

5. Enter **q** and then **x** to exit the Server Manager.

6.3 WDeploy

WDeploy is installed as a part of SAP BusinessObjects Business Intelligence Platform (BI Platform) or SAP Information Platform Service (IPS) to aid in the deployment of web applications to Java-based web application servers.

There are two ways to deploy web applications after installation:

- Use the WDeploy web application deployment tool.
- Use your web application server administrator console.

Before you use your web application server administrator console, you must run `undeploy` and `deployall` commands to modify your web application server administrator console to be deployable WAR or EAR files. See [Deploy web applications with WDeploy \[page 58\]](#) for details.

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.


Related Information



[Run WDeploy from the command line \[page 84\]](#)

6.3.1 WDeploy prerequisites

Ensure that you adhere to the specific WDeploy prerequisites for web application server free space, platform requirement, and so on.

Read about the WDeploy software and hardware prerequisites, and other information in the SAP BusinessObjects Business Intelligence *Web Application Deployment Guide*. Find the most recent documentation on our Customer Portal.

Prerequisite	Information
Perl home environment variable	<p>For WDeploy GUI only.</p> <p>Set the PERL_HOME environment variable.</p> <p>If you do not already have Perl 5.8.9 installed, set PERL_HOME to <code><BIP_INSTALL_DIR>/Installdata/setup.engine/perl</code></p> <p>To use your own version of Perl 5.8.9, ensure that the following modules are also installed:</p> <ul style="list-style-type: none"> • <code>Text::CharWidth</code> Gets the number of occupied columns of a string on terminal. For more information, see the CharWidth.pm article at http://search.cpan.org. • <code>Text::WrapI18N</code> Line wrapping module with support for multibyte, full-width, and combining characters and languages without whitespaces between words. For more information, see the WrapI18N.pm article at http://search.cpan.org.
WebSphere as web application server	<p>When using WebSphere with a non-default profile name that is not set to AppSrv01, manually update the <code>as_profile_name</code> parameter in the WebSphere configuration file before launching the WDeploy console-based tool.</p> <div>  Example <ol style="list-style-type: none"> 1. Update <code>as_profile_name</code> in <code><BIP_INSTALL_DIR>\wdeploy\conf\config.websphere<version></code>. 2. Launch the WDeploy. 3. Select <i>WebSphere</i> <code><version></code> and provide all parameters. 4. Perform the deployment. </div>
Wdeploy default location and command syntax	<p>Location: <code><BIP_INSTALL_DIR>/wdeploy</code></p> <p>Syntax of WDeploy command from the WDeploy directory is:</p> <pre>./wdeployGUI.sh</pre>
Web application server	<ul style="list-style-type: none"> • Installed and operating before you install Data Services. • Have at least 5 GB of free disk space in addition to any other requirements given by other software installed on the machine.

Prerequisite	Information
Host web application server	<p>Must have configured the minimum heap size (-Xms), maximum heap size (-Xmx), and Permanent Generation (-XX:MaxPermSize) settings.</p> <div>  Example <pre>JAVA_OPTS=-Xms128m -Xmx1024m - XX:MaxPermSize=512</pre> </div> <div>  Note <p>For SAP NetWeaver AS 7.3 or higher, ensure that the maximum heap size is at least 2048 megabytes:</p> <pre>JAVA_OPTS=-Xms128m -Xmx2048m - XX:MaxPermSize=512</pre> </div>
Host system	Must have a minimum of 5 GB free space in /tmp for the deployment of web applications. You cannot use the TEMP environment variable to define a location other than /tmp.
Operating system	<ul style="list-style-type: none"> • 64-bit operating system • 64-bit web application servers • 64-bit JDK
Rights to deploy web applications	<p>User that deploys web applications with WDeploy is the same user that installed BI Platform or IPS.</p> <p>If the user is different, see the <i>BI Web Application Deployment Guide</i> for details.</p>

6.3.2 Start WDeploy

Start the WDeploy GUI tool or use a command line to start the command line WDeploy tool.

The WDeploy GUI tool is located in <BIP_INSTALL_DIR>/wdeploy. Use the following command to start WDeploy: `./wdeployGUI.sh`

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 Deploying or undeploying all using WDeploy GUI

The WDeploy GUI tool allows users to deploy and undeploy web applications to a web application server. Any web applications not deployed by the BI platform or IPS installation program or WDeploy tool will be unaffected.

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. For details about your applicable web application server, see the *BI Web Application Deployment Guide*.

i Note

To perform deployment operations other than deploy all and undeploy all, use the WDeploy command line tool.

1. Start WDeploy GUI.
2. Select an option from *Choose deployment Action* based on whether you are deploying or undeploying.

Options include:

- *Deploy all available SAP BusinessObjects Web Applications to the server.*
- *Undeploy all SAP BusinessObjects Web Applications from the server.*

i Note

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

3. Select the server type from the *Select Web Application Server* type dropdown list.
4. Complete the applicable *Web Application Server information* options applicable to the web application server type you chose.
5. Enter the path to the root directory in *Application Server Domain Root Directory*, or click *Browse* to select the root directory.
6. Click *Options* to set advanced options. Set the following options:
 - *WDeploy work directory*
 - *Web applications source locations*
 - *Web application root context*

i Note

The WDeploy GUI tool does not accept non-English characters in paths.





7. Complete any other applicable options and click *Run*.

Related Information

[Advanced options \[page 83\]](#)

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
<i>Select WDeploy work directory</i>	<p>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.</p> <div> Example</div> <p><BIP_INSTALL_DIR>/wdeploy/workdir</p>
<i>Select Source location of web applications:</i> <i>Web application source tree location</i>	<p>The location of source used to create WAR or EAR</p> <div> Example</div> <p><BIP_INSTALL_DIR>/warfiles/webapps</p>
<i>Select Source location of web applications:</i> <i>Generic WAR files location</i>	<p>The location of source content used to create the generic WAR files.</p> <div> Example</div> <p><BIP_INSTALL_DIR>/java/applications</p>
<i>Web applications root context</i>	<p>Select the web application root context path to which all web applications are deployed.</p> <div> Example</div> <p>/BOE</p>

Note

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

6.3.5 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.

The web components that are available to deploy include the following:

- DataServices
- Doc
- Webservice

By default, the wdeploy tool and the web components are installed to the following locations during the BOE Platform or IPS installation:


- wdeploy:
 <BIP_INSTALL_DIR>/wdeploy
- web components:
 <BIP_INSTALL_DIR>/warfiles/webapps

Use deployment commands to deploy specific web applications to a specific web application server. Deployment commands follow the format: server.properties.action. For example:

 Sample Code

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

Where:

Parameter	Description
<server_type>	Name of the web or web application server. Must match the name of the WDeploy configuration file <BIP_INSTALL_DIR>/wdeploy/conf/config.<WEB_APP_SERVER>. Available values: <ul style="list-style-type: none">• jboss<version>• sapappsvr<version>• tomcat<version>• weblogic<version>• websphere<version>
- Das_admin_password=<password>	Specifies the administrator password to use to deploy the application. <div><div> Note</div><div>For Tomcat web application servers, the password is not required.</div></div>

Parameter	Description
<code>-DAPP=<app_name></code>	<p>Specifies the web application component to deploy.</p> <p>Available values for <code><app_name></code> include:</p> <ul style="list-style-type: none"> • <code>DataService</code> • <code>doc</code> • <code>webservice</code>
<code><command></code>	<p>Specifies the command for wdeploy to execute.</p> <p>Available values for <code><command></code> include:</p> <ul style="list-style-type: none"> • <code>deploy</code> Prepares and deploys a single web application component to the web application server. • <code>deployall</code>: Prepares and deploys all web application components to the web application server. • <code>undeploy</code>: Removes a single web application component from the web application server. • <code>undeployall</code>: Removes all web application components from the web application server.

6.3.5.1 Configuring Wdeploy

Configure WDeploy to specify the web application server settings.

1. Open the configuration file for your web application server. By default, the configuration files are installed to `<BIP_INSTALL_DIR>/wdeploy/conf`.
Available configuration files include:
 - `config.jboss<version>`
 - `config.sapappsvr<version>`
 - `config.tomcat<version>`
 - `config.weblogic<version>`
 - `config.websphere<version>`
2. Set the parameters to match your application server settings.
3. Save and close the configuration file.

6.3.5.2 Deploying all web components

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

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

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

Note

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

3. Open the `DataServices.html` file located in <LINK_DIR>/ext and change the default port number to match the port number for your web application server.
For example, the default port number for Tomcat is 8080.

```
<META HTTP-EQUIV=Refresh CONTENT="0; URL=http://hostname:8080/DataServices/">
```

All web components are deployed to the web application server.

Example

WebSphere 6

```
wdeploy.sh 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 Deploying 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.sh <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.sh 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 Undeploying 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.sh <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.sh 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.

6.3.5.5 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.sh <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.sh weblogic10 -Das_admin_password=mypass -DAPP=DataServices undeploy
```

i 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 Deploying web applications in a distributed environment

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

For example, consider the following deployment:

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

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

1. Copy the BOE directory from Host B to Host A.
By default, the BOE directory is located in `<BIP_INSTALL_DIR>/warfiles/webapps/`.
2. Use `wdeploy` to deploy the BOE web application on Host A:
 - Deploy all SAP web applications from the command-line or GUI.
Or
 - Deploy only the BOE web application from the command-line.

Related Information

[WDeploy \[page 79\]](#)

[Deploying all web components \[page 85\]](#)

[Deploying one web component \[page 86\]](#)

6.3.7 Deploying on WebLogic 10.3

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

1. Clean the WebLogic environment or undeploy the Data Services and BI platform deployment if there is a previous deployment. Undeployment can be done from the WebLogic administration console.

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

6.3.8 JBoss 7.1 administrative console manual deployment

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

1. Use the wdeploy predeploy command to create WAR files such as Dataservices.war that can be deployed manually to JBoss: wdeploy.bat jboss7 -DAPP=DataServices predeploy
The wdeploy predeploy command creates an exploded WAR file structure for the Web Services web applications (folders named DataServices.war).
2. Copy the files listed below from the following WDeploy RSA module directory: <BIP_INSTALL_DIR>/SAP BusinessObjects Enterprise XI 4.0/wdeploy/rsa_module
 - certjFIPS.jar
 - cryptojFIPS.jar
 - ssljFIPS.jar
 - module.xml
3. On your JBoss application server, create an rsa/main directory under modules/com, and paste all files copied in Step 1 to <JBOSS_INSTALL_DIR>/modules/com/rsa/main
When the WAR files are created, copy them to a new location before deploying to JBoss using the JBoss Command Line Interface (CLI).
4. From the JBoss bin directory, run the command jboss-cli --connect to start the JBoss CLI and connect to the application server.
5. Run the /deployment command on the compressed WAR file or exploded WAR folder. If you are deploying to a managed domain, also run the /server-group command.
Assume for the following examples that the WAR is stored in C:/BIPwebapps/ and the server group is named **main-server-group**.
 - For compressed .war files, such as DataServices.war set the archive value to true:
Standalone server:

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

Managed domain:

```
/deployment=DataServices.war:add(runtime-
name="DataServices.war",content=[{"path"=>"C:/BIPwebapps/
```

```
DataService.war", "archive"=>true})) /server-group=main-server-group /  
deployment=DataService.war:add(enabled=true)
```

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

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

Managed domain:

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

6.4 Deploy Data Services Web applications on SAP NetWeaver 7.3

To deploy SAP Data Services Web applications to SAP NetWeaver 7.3 or higher, 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, the following prerequisites must be met:

- You are using a Windows Server 2008 or higher or UNIX host.
- You are using SAP NetWeaver 7.3 or higher.
- You install either SAP BusinessObjects BI platform or Information Platform Services (IPS)
- You install SAP Data Services.
- You install NetWeaver 7.3 or higher using the same host agent as the SAP BusinessObjects BI platform or Information Platform Services (IPS) and Data Services.

Note

To ensure you use compatible versions of SAP software, consult the Product Availability Matrix (PAM) at <https://apps.support.sap.com/sap/support/pam>.

There are two phases involved in deploying Data Services Web applications to NetWeaver 7.3 or higher:

- Predeployment: Use the WDeploy tool to prepare the environment.
- Software Update Manager (SUM): SUM is a multi-purpose tool that supports various processes, such as performing a release upgrade, installing enhancement packages, applying support package stacks, installing add-ons, or updating single components.

Note

View all information for SUM in the SAP Customer Portal beginning with the *System Maintenance* section of the *Software Logistics Toolset (SL Toolset)* page at <https://support.sap.com/sltoolset>.

6.4.1 Setting compression for HTML and HTM files

Before deploying SAP Data Services Web applications to an SAP NetWeaver Application Server component (any version), ensure that `.html` and `.htm` files are never compressed.

Use the following example to set the compression for your applicable version of SAP NetWeaver Application Server 7.3 or higher component.

1. Logon to your SAP Administrator portal.
For example, in your browser, type `http://<servername>:<1128>/nwa`. Use port number 1128 when you use HTTP and use port 1129 when you use HTTPS.
2. Select **Configuration** > **Infrastructure** > **Java System Properties**.
3. On the **Services** tab, select **HTTP provider**.
4. Under **Extended Details**, modify the **AlwaysCompressed** and **NeverCompressed** properties as follows:
 - **AlwaysCompressed**: Remove `*.htm`, `*.html`, and `text/html` from this property. The **AlwaysCompressed** field cannot be blank. If this field is blank after you remove the listed properties, enter a space.
 - **NeverCompressed**: Add `*.htm`, `*.html`, `text/html` to this property.
5. Save your changes and exit the SAP Administrator portal.

6.4.2 Predeploying with WDeploy

Use WDeploy to generate the necessary SCA (Service Component Architect) files that you manually deploy to the SAP NetWeaver Web application server.

Before you begin, undeploy any existing Data Services Web applications that are currently running on the server.

Read about WDeploy at [WDeploy \[page 79\]](#).

The system administrator user that performs the following steps must be the same system administrator as for SAP BusinessObjects BI platform or IPS installation and Data Services installation.

1. Run the WDeploy `predeploy` command or `predeployall` command to generate SCA files.
 - `./wdeploy.sh sapappsvr73 -DAPP=DataServices predeploy` or
 - `./wdeploy.sh sapappsvr73 predeployall`

i Note

You cannot use the WDeploy GUI to run the `predeploy` or `predeployall` commands.

Command	Description
<code>predeploy</code>	Prepares a Web application for deployment to the target Web application server.

Command	Description
<code>predeployall</code>	Prepares all Web applications for deployment to the target Web application server.

The WDeploy command saves the resulting SCA files to the following location: `<INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/workdir/sapappsrv73/application`

- Continue with the deployment process by following the steps in [Downloading and unpacking SUM \[page 92\]](#).

6.4.3 Downloading and unpacking SUM

Before you can perform a manual deployment of Data Services Web applications to SAP NetWeaver, obtain the Software Update Manager (SUM) tool, and prepare it for deployment.

If you already have downloaded the SUM tool, make sure that you are using the most recent version.

Ensure that the Web application server is installed, configured, and running.

Note

Obtain all information about SUM, including a link to the download center, and access to SUM guides, by visiting the Customer Support Portal at <https://support.sap.com/sltoolset>. The link takes you to the Software Logistics Toolset (SL Toolset) page. Scroll down to *System Maintenance* to see the SUM section.

You need SUM to deploy Web applications to SAP NetWeaver.

The instructions require that you be an administrator and that you enter the SAP system identification code that you used when you installed SAP NetWeaver.

- Download SUM from the SAP Software Download Center at <https://support.sap.com/swdc>.
- Unpack SUM to the same system that hosts SAP NetWeaver technology platform, with network access to the location where you deploy the SCA packages with WDeploy.
- Unpack SUM with the following command:

Sample Code

```
SAPCAR - xvf <download_directory>/<path>/<Archive>.SAR -R
<SAPNW_INSTALL_DIR>:/usr/sap/<sapsid>
```

Enter sapsid in lower case. Enter your SAP system identification code in the command above in lower case.

When you extract the files, the software creates a folder named SUM under the specified path.

- Continue with the deployment following the steps in [Deploying Data Services Web applications to NetWeaver with the Software Update Manager \(SUM\) \[page 93\]](#).

6.4.4 Deploying Data Services Web applications to NetWeaver with the Software Update Manager (SUM)

If you have not deployed SAP Data Services Web applications to the SAP NetWeaver Application Server, follow this fresh deployment method.

Make sure that you meet the following requirements:

- You are an administrator user and you use the system identification code that you specified when you installed SAP NetWeaver.
- You have write permission for the `<DS_COMMON_DIR>` folder.
- The Web application server is installed, configured, and running.
- The SUM software is downloaded, unpacked, and configured.
- The SCA files are generated by WDeploy.

Follow these steps to manually deploy SAP Data Services Web applications to SAP NetWeaver:

1. Set the Data Services environment so that it is accessible.
 - a. Set the `$LINK_DIR` environment variable to point to `<dataservices_install_directory>/dataservices`.
 - b. Set `$DS_COMMON_DIR` environment variable to point to `<dataservices_install_directory>/dataservices`.

Note

Steps a. and b. can also be done in the NetWeaver users, `.profile` or related files. By setting the Data Services environment in the `.profile` or related files, you set the environment before the NetWeaver application server daemon starts.

- c. Restart the NetWeaver application server daemon after Data Services setup.
2. Ensure that all server processes on the Java instance are started.
 3. Copy all SCA files that you generated with WDeploy and place them into the following folder:
`<SAPNW_INSTALL>/usr/sap/Trans/EPS/in`
 4. Start the NetWeaver Application Server component.
 5. Execute the command `startsap ALL`.
 6. Start the SUM server process:
 - a. Start the SUM process as root user from the SUM directory.
 - b. Execute the following command: `STARTUP confighostagent <SAPSID>`.
 7. Start the SUM graphical user interface (GUI) from a browser at `http://<host>:<port>/lms1/sumjava/<SAPSID>/index.html`

About port: When you use `http`, use port 1128. When you use `https`, use port 1129.

8. In the *Define Target* step, choose *Manually prepared directory* and enter the path to the SCA files in the *Stack file or Directory path* text box:

Enter `<SAPNW_INSTALL>/usr/sap/Trans/EPS/in`

9. Click *Next*.

The update procedure starts.

10. When the update procedure completes, the deployment process is finished. The SUM displays a confirmation tab. If there are warnings or errors, you may be able to click [Back](#) to fix the errors in SUM before trying to deploy again.

i Note

For details about the deployment, open the latest `ProcessOverview.html` report, stored in `<SAPNW_INSTALL>:/usr/sap/<sapsid>/SUM/sdt/htdoc`.

For more information about troubleshooting, see the *SAP NetWeaver Web Application Deployment Guide*.

6.4.5 Undeploying Data Services Web applications

Use the command line console to undeploy the Data Services Web applications from SAP NetWeaver.

The Software Update Manager (SUM) tool does not support an undeployment process. Therefore, perform the following steps to undeploy the Web applications:

1. On the SAP NetWeaver 7.3 or higher host system, go to `<install_dir>:/usr/sap/<AS_ID>/<instance_folder>/j2ee/console`.
2. Run `textconsole` and log on using your NetWeaver user name and password.
3. Check if the Web application is already deployed by using the `list_app` command.
4. Use the `undeploy` command to undeploy the Data Services Web applications.

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

where `<web_app_name>` is the name of the Web application that you want to undeploy.

Data Services has two Web applications that need to be undeployed:

- `SBOP_DS_MANAGEMENT_CONSOLE`
- `SBOP_DS_MANAGEMENT_CONSOLE_DOC`

6.4.6 Updating an existing deployment

Update the deployed SAP Data Services Web applications to SAP NetWeaver 7.3 or higher for a support pack or patch.

i Note

You can alternatively choose to undeploy the existing Data Services Web applications and perform a fresh deployment with the NetWeaver support pack or patch. For undeployment steps, see [Undeploying Data Services Web applications \[page 94\]](#).

To update an existing Web application deployment:

1. Update the `SAP_metadata.properties` file version to the new NetWeaver version.
By default, the properties file is located in `<BIP_INSTALL_DIR>/wdeploy/SDLDSupport/NWSLD/<warfile>`.

i Note

Ensure that you set the support pack or patch version to a higher value than the one in the deployed version.

2. Follow the predeployment configuration steps in WDeploy to generate new SCA files.
3. Follow the deployment steps in the Software Update Manager (SUM) tool GUI.

When you update Web applications with the SUM tool, the software displays existing versions and the target version during the process.

Related Information

[Predeploying with WDeploy \[page 91\]](#)

[Deploying Data Services Web applications to NetWeaver with the Software Update Manager \(SUM\) \[page 93\]](#)

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