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Web Application Deployment Guide for Unix

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1 Document History

The following table provides an overview of the most important document changes.

Note

For an up-to-date list of web application servers supported by this release, see the *Product Availability Matrix* (Supported Platforms/PAR), available on the SAP BusinessObjects section of the SAP Support Portal at: <https://support.sap.com/home.html> .

Version	Date	Description
SAP BusinessObjects Business Intelligence platform 4.3	June, 2020	Initial release

2 Getting Started

2.1 About this document

This document tells you how to deploy BI platform web applications to a web application server using the WDeploy tool.

For information related to the installation of the BI platform, see the *SAP BusinessObjects Business Intelligence Platform Installation Guide*.

For information related to the administration of an SAP BusinessObjects Business Intelligence platform server, see the *SAP BusinessObjects Business Intelligence Platform Administrator Guide*.

2.2 What's new in the Web Application Deployment Guide?

Web application server support

For a list of platforms, databases, web application servers, web servers, and other systems supported by this release, see the *Product Availability Matrix* (Supported Platforms/PAR), available on the SAP BusinessObjects section of the SAP Support Portal at: <https://support.sap.com/home.html>. The *Product Availability Matrix* takes precedence over any discrepancies in the *Web Application Deployment Guide*.

BI platform 4.x

The following features have been introduced as of BI platform 4.x:

What's new with the WDeploy deployment tool

Feature	Description
GUI interface	New GUI interface for <code>deployall</code> and <code>undeployall</code> actions.
Two levels of log files	One log summary to help administrators understand the deployment status; one detailed log to help developers troubleshoot deployment issues.
Easier configuration	Centralized configuration file for WDeploy global parameters; access server and WDeploy parameters from WDeploy GUI.
Localization support	WDeploy GUI localization support.

Feature	Description
No intermediate WAR files	Intermediate WAR files are no longer created as a part of the deployment process. If you need to create a WAR file that is not tailored to a specific web application server, use the <code>wdeploy buildwarall</code> command.
Simplified deployment	The number of WAR files used for BI platform web applications has been reduced. This helps reduce duplicate resource consumption and number of queries made from the web application server to the CMS.

What's new in this document

Feature	Description
Content reorganization	Rather than list each WDeploy command for every web application server, now a WDeploy command is now shown only once, with examples for each supported web application server.
New features documented	New WDeploy features have been documented.

BI platform product documentation is available in supported languages from the support web site, and is refreshed with up-to-date content as it becomes available between releases. For the most recent product documentation, visit <http://help.sap.com>.

2.3 Who should read this documentation

This documentation is intended for the system administrator or IT professional working to support an installation of the BI platform. Familiarity with your overall network environment, port usage conventions, database environment, and web server software is essential.

2.4 Variables

The following variables are used throughout this guide.

Variable	Description
<code><BIP_INSTALL_DIR></code>	The directory where the BI platform is installed.
<code><WAS_HOSTNAME></code>	The hostname or IP of the web application server where BI platform web applications are deployed.
<code><WEB_APP></code>	The name of a BI platform web application. For example, a value for <code><WEB_APP></code> is <code>BOE</code> . This application has a configuration file called <code>BOE.properties</code> , and the WDeploy tool creates <code>BOE.war</code> during predeploy steps for certain application servers.

Variable	Description
	For a complete list of BI platform web applications, see SAP BusinessObjects Business Intelligence platform WAR and EAR files [page 11] .
<WEB_APP_SERVER>	<p>The shorthand name of the web application server used by the WDeploy tool. For example, the value of <WEB_APP_SERVER> for Tomcat 8.5 is tomcat8.</p> <p>For a complete list of values, see Values for WEB_APP_SERVER [page 45].</p>

2.5 Terminology

The following terms are used throughout the BI platform documentation:

Term	Definition
Add-on products	Products that work with the BI platform but have their own installation program.
Auditing Data Store (ADS)	The database used to store auditing data
BI platform	An abbreviation for the SAP BusinessObjects Business Intelligence platform
Bundled database; bundled web application server	The database or web application server shipped with the BI platform
Cluster (noun)	Two or more Central Management Servers (CMSs) working together and using a single CMS database
Cluster (verb)	<p>To create a cluster:</p> <ol style="list-style-type: none"> 1. Install a CMS and CMS database on machine A. 2. Install a CMS on machine B. 3. Point the CMS on machine B to the CMS database on machine A.
Cluster key	<p>Used to decrypt the keys in the CMS database.</p> <p>You can change the cluster key in the CCM, but you cannot reset the key like a password. It contains encrypted content and is important not to lose.</p>
CMS	An abbreviation for the Central Management Server

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

3 Overview of web application deployment

The BI platform installation program can deploy web applications only to the bundled Tomcat web application server. All other supported web application servers require that web applications be deployed after the installation is complete. It is recommended that you use the WDeploy web application deployment tool. For information and instructions on how to deploy using the WDeploy tool, see the *To deploy web applications with the WDeploy tool* section of this guide.

You can also deploy web applications with your application server's administrative console if you prefer. Web applications deployed with the web application server's administrative console must first be modified to be deployable WAR or EAR files. The `wdeploy predeploy` and `wdeploy predeployall` commands automate this process. After using these predeployment commands, jump to the *To deploy web applications with the administrative console* section of the guide for instructions. However, if you have extensive knowledge of your web application server and know how to customize web applications for deployment, this process can be done by hand. The manual tailoring of web applications for deployment to a web application server is not covered in this guide.

3.1 Overview of OSGi WAR files

The OSGi framework for Java web applications simplifies the deployment of the web applications bundled with the BI platform. It allows web applications, language packs, SDKs, plugins, and other resources to exist in a single bundle that can be deployed to a web application server in one step.

Deploying a single WAR file also means fewer web sessions are needed when a user accesses multiple web applications, which reduces the memory, disk, and processing load placed on a web application server.

3.2 Fail-over and load balancing

The BI platform supports clustered web application servers with load balancing. Hardware or software load balancers can be used as the entry-point for the web application servers to ensure that the processing is evenly distributed among the web application servers.

The following persistence types are currently supported:

- Source IP address persistence.
- Cookie persistence Insert mode (ArrowPoint Cookie)

📌 Note

Load balancing a cluster of BI platform servers is not required, as the Central Management Server (CMS) already distributes work between cluster nodes.

3.2.1 Web application clustering support

The BI platform can be used in environments with different clustered, load balanced, or fault tolerant configurations. The table below lists configuration support for Web-hosted BI tools, CMC, and BI launch pad web applications.

Web application	Clustered web application servers	Load balancers with session affinity	Load balances without session affinity	Fault tolerant (See <i>Description of fault tolerance</i>).
BI launch pad (stateless)	Supported	Supported	Unsupported	No
CMC (stateful)	Supported	Supported	Unsupported	No
Web-hosted BI tools	Supported	Supported	Unsupported	Yes

Note

The WDeploy tool is not supported for deployment to a cluster or cluster software such as Websphere Application Server Network Deployment.

Description of fault tolerance

Fault Tolerance (or failover) is supported in the form of document serialization by BI platform tools. The CMC and the BI Launchpad do not support failover. If the web tier has been configured correctly, the following behavior is supported in event of a web server failure:

Web application	Description of fault tolerance
BI Launchpad	You need to log on again.
CMC	You need to log on again.
Web-hosted BI tool	You need to log on again but the document content will be preserved.

When configuring failover you must consider the frequency with which data from objects is serialized. Saving state too frequently can cause additional overhead on the web application servers and cause the user experience to be slower. Consult the web application vendor's documentation for suggested configuration settings.

3.3 SAP BusinessObjects Business Intelligence platform WAR and EAR files

The functionality that makes up the BI platform is divided between several web applications to make it easy to deploy only the components required by your organization. In the BI platform 4.3, many of the core web

applications included with previous releases have been bundled into a single OSGi archive. This saves web application server memory and the reduces the number of web sessions needed for web applications that previously had multiple archives.

For example, BI platform XI 3.x included the Central Management Console (CMC) and InfoView (now BI launch pad) web applications archived as `CMC.war` and `InfoView.war`. The BI platform 4.3 has consolidated the CMC and InfoView (now BI launch pad) web applications, along with others, into a single archive named `BOE.war` or `BOE.ear`.

The WDeploy tool is used to automate the process of tailoring web applications to be deployable on a supported web application server. While it is possible for an experienced administrator to manually tailor a web application for a specific web application server, it is recommended that the WDeploy tool be used to automate the process.

The following table lists the web application archives, the web applications that require them. Web applications not automatically deployed by the installation program must be deployed post-install.

Web application archive (may be WAR or EAR)	Deployed automatically?	Description
BOE	Yes	OSGi archive of core web applications, including: <ul style="list-style-type: none"> Analytical Reporting CMC SAP Crystal Reports BI launch pad (formerly InfoView) Eclipse IDE support Lifecycle Manager Monitoring OpenDocument BI Workspace (formerly Dashboard Builder) Platform search Platform services Visual difference
clientapi	Yes	SAP Crystal Reports JavaScript API support.
dswsbobje	Yes	Web Services components, including: <ul style="list-style-type: none"> Session BI platform BI catalog Federation Administration tool Live Office Web service query tool (formerly Query as a Web Service) Publishing Report Engine SAP BusinessObjects Web Intelligence

Web application archive (may be WAR or EAR)	Deployed automatically?	Description
jsfplatform	No	Java Server Faces support and examples.
MobileOTA14	No	Web application for mobile client support.
OpenSearch	No	OpenSearch support.
AdminTools	Yes	Query Builder support.

Note

BusinessProcessBI is deprecated. For more information, refer to [Knowledge Base Article 2833571](#).

The following table compares the WAR files shipped in previous versions, and where to find the functionality in the BI platform 4.3.

Previous web application archive (may be WAR or EAR)	New web application archive (may be WAR or EAR)
AdminTools	AdminTools
AnalyticalReporting	BOE
CmcApp	BOE
CmcAppActions	BOE
CrystalReports	BOE
dswsbobje	dswsbobje
InfoViewApp	BOE
InfoViewAppActions	BOE
LCM	BOE
OpenDocument	BOE
PerformanceManagement	BOE
PlatformServices	BOE
PMC_Help	BOE
VoyagerClient	BOE
XCTemplateUploader	BOE

3.3.1 To deploy OpenSearch.war for OpenSearch support

The installation program does not deploy the OpenSearch web application that provides support for OpenSearch applications.

To use OpenSearch applications, you must deploy the `OpenSearch.war` archive manually once the installation process is complete.

Note

The WDeploy GUI tool cannot be used to deploy individual web applications. To deploy an individual web application, such as OpenSearch, use the WDeploy command-line tool.

1. Ensure that web application server's connection details have been set in the WDeploy web application server configuration file. The file is located in:

```
<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/conf/config.<WEB_APP_SERVER>
```

For more information on the WDeploy web application server configuration file, see “Configuration files” in the *SAP BusinessObjects Business Intelligence Platform Web Application Deployment Guide*.

2. Update the OpenSearch configuration in the OpenSearch web application's `config.properties` file. The file is located in:

```
<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/warfiles/OpenSearch/WEB-INF
```

Ensure that the following parameters are configured for your server:

- `cms`: the CMS hostname and CMS port number. For example, use the format:
`<CMS_HOSTNAME> : <PORT>`.
- `opendoc`: the URL of the OpenDocument web application. For example: `http://<WAS_HOSTNAME> : <PORT> /BOE/OpenDocument/opendoc/openDocument.jsp`.
- `proxy.rpurl`: reverse proxy URL, if your organization uses a reverse proxy server.
- `proxy.opendoc.rpurl`: the OpenDoc reverse proxy server URL, if your organization uses an OpenDoc reverse proxy server.

3. Deploy the OpenSearch web application.

To deploy the OpenSearch web application, use the following WDeploy command:

```
wdeploy.sh <WEB_APPLICATION_SERVER>  
-Dapp_source_dir=<LOCATION_OF_OPENSEARCH_WEB_APP_SOURCE_TREE>  
-DAPP=OpenSearch  
deploy
```

For example, the following command deploys the OpenSearch web application to a WebSphere 7 web application server:

```
wdeploy.sh websphere7  
-Dwar=/sap/sap_bobj/enterprise_xi40/warfiles/OpenSearch  
-DAPP=OpenSearch  
deploy
```

For more information on OpenSearch related products, refer to “OpenSearch” section of the *SAP BusinessObjects Business Intelligence Platform Administrator Guide*.

3.4 Default context roots

All web applications can be deployed to a custom context root on your web application server. The following table lists the context roots for each web application.

Note

BusinessProcessBI is deprecated. For more information, refer to [Knowledge Base Article 2833571](#).

Web application	Context path
Central Management Console (CMC)	/BOE/CMC
BI launch pad	/BOE/BI
Open Document	/BOE/OpenDocument
SAP Crystal Reports JavaScript API	/clientapi
Web Services provider	/dswsbobje
Query Builder or Admin tools	/AdminTools

3.5 Custom root contexts and context paths

BI platform web applications can be deployed to a custom location on a web application server. This location is reflected in the URL used to access the web application from a web browser, and is often known as the context.

A root context is the top-level folder on a web application server in which web applications are located. The default root context for BI platform web applications is `/BOE`. For example, on a web application server named `www.mycompany.com`, the URL prefix used to access web applications on the server would be `http://www.mycompany.com/BOE/`.

A context path (sometimes referred to as a virtual directory) is a folder within a root context, in which a web application is located. For example, the default context path for the BI launch pad application is `/BI`. The URL used to access the BI launch pad web application on a web application server named `www.mycompany.com` would be `http://www.mycompany.com/BOE/BI`.

Both the root context and the context path can be changed to suit the needs of your organization. The following topics describe how to customize root and web application context paths.

3.5.1 To change the root context

You can change the root context used by the BI platform web applications (excluding the `AdminTools` web application. `AdminTools` must use the default root context to function correctly). The default setting is to have an empty root context, so the web application context path is shown directly after the server address in a URL.

For example, an empty root context results in a URL such as `http://localhost:8080/BOE/CMC`, where `http://localhost:8080/` is the server and port number, there is no root context, and `BOE/CMC` is the web application context path. Setting the root context to `/MY_COMPANY` would change the URL example shown above to `http://localhost:8080/MY_COMPANY/BOE/CMC`.

When using the WDeploy tool, the root context can be set in the [Options](#) screen. When using the WDeploy command-line tools, the root context for the BI platform web applications is set in the following configuration file:

<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/conf/wdeploy.conf

Use a text editor to update the value for `root_context_path` given in `wdeploy.conf`.

For example, `wdeploy.conf` configuration file contains the following parameters by default:

```
as_lang=en
work_dir=
war_dir=
app_source_tree=
disable_CMC=false
disable_InfoView=false
JCoStandalone=
root_context_path=/SAPBI
recent_app_svr=<WEB_APP_SERVER>
```

3.5.2 To change a web application's context path

You can change the default context path (sometimes referred to as the virtual directory) of BI platform web applications.

For example, the BOE web application's default context path is `BOE`, which can be seen in the sample URL `http://localhost:8080/BOE/CMC`. In this example, `http://localhost:8080/` is the server and port number, `BOE` is the web application, and `/CMC` is a component included within the `BOE` web application.

The context path for BI platform web applications is set in the following configuration file:

<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/conf/apps/<WEB_APP>.properties

Use a text editor to update the value of the `appvdir` parameter found in configuration file `WEB_APP.properties`.

For example, the `BOE.properties` configuration file contains the following parameters by default:

```
warfile=BOE.war
appvdir=BOE
buildfile=BOE.xml
osgisupported=true
```

Note

In the above example, you could change the `appvdir` from `BOE` to your chosen value, such as `'BobDIR'`.

4 To deploy web applications with the WDeploy tool

4.1 Overview of WDeploy

The WDeploy tool is included with the BI platform to ease deployment of web applications to Java-based web application servers.

There are two different interfaces to WDeploy:

- A traditional, text-based interface that processes commands and parameters given on the command-line.
- A new console-based guided assistant similar to the BI platform installation program, which prompts the user to enter deployment parameters.

While each supported web application server requires different commands and web application package updates, WDeploy provides a consistent interface for administrators, and automates the adjustments needed for deployment to a specific web application server.

For example, to deploy a web application to an IBM WebSphere web application server, a single WDeploy command performs the following tasks:

1. Creates settings specific to IBM WebSphere in the web application's `web.xml` file.
2. Bundles the web application content into a web archive.
3. Creates an EAR file containing the web application.
4. Calls IBM WebSphere deployment tools to deploy the web application.

4.2 WDeploy prerequisites

This section details prerequisites for the deployment of the BI platform web applications to supported web application servers.

Note

Before deploying web applications to WebSphere, see [WASX7017E: Exception deploying in WebSphere \[page 99\]](#).

For more information on WDeploy GUI prerequisites, see [WDeploy GUI tool prerequisites \[page 71\]](#).

4.2.1 Before you deploy web applications

Your web application server must be installed and working before you install the BI platform. Consult your web application server documentation for installation instructions.

Your web application server should have at least 5 GB of free disk space, in addition to any other requirements given by other software installed on the machine.

Consult your JVM documentation for information on changing your Java memory settings.

Before you begin the deployment process, ensure that the web application server is installed and verify that the application server is running correctly by launching its administrative console.

4.2.2 Hardware requirements

The deployment of web applications to a web application server with the WDeploy tool requires at least 5 GB of RAM (8 GB for SAP NetWeaver Technology Platform), and 15 GB of free disk space, plus a minimum 5 GB of free space on the partition that hosts the `/tmp` temporary folder, for the deployment of web applications. This is in addition to any other requirements of the web application server or any other servers or services installed on the host.

4.2.3 64-bit support

The BI platform is only supported on 64-bit operating systems and only supports 64-bit web application servers with a 64-bit JDK.

4.2.4 Minimum rights for deploying web applications with a different account

→ Tip

It is recommended that you install the BI platform and run the WDeploy tool (`wdeploy.sh`) with the same user account used to install your web application server.

To deploy web applications with the WDeploy tool with a user account different from the one used to install the web application server, you must ensure that this account has appropriate permissions to certain web application server directories. Set the privileges listed in the following table before running the WDeploy tool. Alternatively, ensure this separate account is a member of the same group as the web application server account and set the privileges for the User and Group columns only.

📘 Note

In addition to the right to execute files or folders mentioned in the tables below, the right to execute is also required on the parent directory.

Tomcat 7, 8, 8.5, and 9

Directory	Recursive	User	Group	Other	Example command
Tomcat user account home and BI platform user folder subdirectory	No	rwX	r-X	r-X	<pre>chmod 755 ~<TOMCAT_USER></pre>
Web application deployment directory (\$as_dir/webapps)	No	rwX	rwX	rwX	<pre>chmod 777 <TC_HOME>/webapps</pre>
Tomcat binary directory (\$as_dir/bin)	No	rwX	rwX	rwX	<pre>chmod 777 <TC_HOME>/bin</pre>
Tomcat configuration directory (\$as_dir/conf)	Yes	rwX	rwX	rwX	<pre>chmod -R 777 <TC_HOME>/conf</pre>
Tomcat library directory (\$as_dir/lib)	No	rwX	r-X	r-X	<pre>chmod 755 <TC_HOME>/lib/*</pre>

WebLogic 11gR1

Directory	Recursive	User	Group	Other	Example command
WebLogic user account home and BI platform user folder subdirectory	No	rwX	r-X	r-X	<pre>chmod 755 <WL_USER></pre>

Directory	Recursive	User	Group	Other	Example command
Web domain binaries (\$WL_HOME / <PROJECT> / <DOMAIN> / <BASE> /bin)	No	rwX	rwX	rwX	<pre>chmod 777 <WL_HOME>/ user_projects/ domains/ base_domain/ bin</pre>
WebLogic server libraries (\$WL_HOME / server/lib)	No	rwX	r-X	r-X	<pre>chmod 755 <WL_SERVER>/ user_projects /lib</pre>
WebLogic server binaries (\$WL_HOME / server/ domains/ base_domain common/bin)	No	rwX	rwX	r-X	<pre>chmod 775 <WL_SERVER>/ user_projects /bin</pre>
WebLogic server modules (\$WL_HOME / server/ domains/ base_domain modules)	No	rwX	rwX	r-X	<pre>chmod 775 <WL_SERVER>/ modules</pre>
WebLogic Java (\$WL_HOME / jdk150_06)	No	rwX	rwX	r-X	<pre>chmod 775 <WL_SERVER>/ jdk150_06</pre>

WebSphere 7.0, 8.5, 8.5.5, and 9

Directory	Recursive	User	Group	Other	Example command
WebSphere user account home and BI platform	No	rwX	r-X	r-X	<pre>chmod 755</pre>

Directory	Recursive	User	Group	Other	Example command
user folder subdirectory					~<WEBSPHERE_USER>
WebSphere profiles directory (\$WEBS_HOME/ AppServer/ profiles)	Yes	rwX	rwX	rwX	chmod -R 777 <WEBSPHERE_HOME>/ AppServer/ profiles
WebSphere admin script (\$as_dir/bin/ wsadmin.sh)	No	rwX	r-X	r-X	chmod 755 <WEBSPHERE_HOME>/ bin/ wsadmin.sh
WebSphere plugin script (\$as_dir/bin/ GenPluginCfg .sh)	No	rwX	r-X	r-X	chmod 755 <WEBSPHERE_HOME>/ bin/ GenPluginC fg.sh
WebSphere security (\$as_dir/bin/ securityProc s.jacl)	No	rwX	r-X	r-X	chmod 755 <WEBSPHERE_HOME>/ bin/ securityPr ocs.jacl
WebSphere security (\$as_dir/bin/ LTPA_LDAPsec urityProcs.j acl)	No	rwX	r-X	r-X	chmod 755 <WEBSPHERE_HOME>/ bin/

Directory	Recursive	User	Group	Other	Example command
					LTPA_LDAPs ecurityPro cs.jacl
WebSphere plugins directory (\$as_dir/ plugins)	No	rwX	r-X	r-X	chmod 755 <WEBSPPHERE _HOME>/ plugins
WebSphere Java directory (\$as_dir/ java)	No	rwX	r-X	r-X	chmod 755 <WEBSPPHERE _HOME>/ java
WebSphere deployment tool directory (\$as_dir/ deploytool)	No	rwX	r-X	r-X	chmod 755 <WEBSPPHERE _HOME>/ deploytool
WebSphere properties directory (\$as_dir/ properties)	No	rwX	r-X	r-X	chmod 755 <WEBSPPHERE _HOME>/ properties

Note

You must accept the WebSphere web application server SSL certificate before you can use WDeploy. To accept the certificate, use `wsadmin` command in the format

```
<WEBSPPHERE_HOME>/AppServer/bin/wsadmin
    -conntype SOAP -port <ADMIN_PORT> -user <AS_ADMIN_USERNAME>
    -password <AS_ADMIN_PASSWORD>
```

. For example:

```
./wsadmin -conntype SOAP
    -port 8880 -user administrator -password websphere
```

4.2.5 Set ulimit to unlimited

To successfully build and deploy BI platform web applications, the host operating system or user account `ulimit` setting must be configured as *unlimited*.

Set the `ulimit` configuration with the `ulimit` command, or for Linux, modify the system configuration file `/etc/security/limits.conf`. For more information about the `ulimit` setting, see the documentation included with your operating system.

4.2.6 To set up the Java environment

WDeploy requires a Java Virtual Machine to be available on the host system. Java Development Kit (JDK) 1.6 is installed automatically by the BI platform installation program, but must be set up or copied from the BI platform server when manually installed on a dedicated machine.

The JDK installed by the BI platform installation program is used by default. If you are using a dedicated web application server, you must set up the JDK by performing either a Web Tier installation, or manually installing an appropriate JDK (1.5 or 1.6, as supported by the web application server). When setting up a JDK manually, ensure that the following environment settings have been configured:

- WDeploy attempts to use the JVM installed with the BI platform first. If this JVM cannot be found, then WDeploy attempts to use the `<JAVA_HOME>` environment variable setting that is set to a valid Java directory. If no valid or suitable JVM is found, WDeploy exits.
- The user account `PATH` environment variable includes:
`<JAVA_HOME>/bin`
- To allow WDeploy to run from any directory, update the `PATH` environment variable to include:
`<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy`

4.2.7 Web application server parameter configuration files

Before using the WDeploy command-line interface to deploy a web application, ensure that the correct parameters are set in the WDeploy web application deployment server parameter configuration file. Set parameters are used as default settings, and no longer need to be given on the command-line.

Note

You do not need to set parameters in these deployment configuration files if you are using the GUI interface, or if you are only predeploying using the `wdeploy predeploy` or `wdeploy predeployall` commands.

The configuration file appropriate for your web application server is located in the following folder:
`<INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/conf`. For example, if you are using Tomcat 8, select `<INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/conf/config.tomcat8`.

Use a text editor to update values specific to your organization's web application server. For more information on how to configure WDeploy configuration files, see [WDeploy configuration files \[page 29\]](#).

Parameters set in the WDeploy web application server parameter configuration file can be overridden when calling WDeploy from the command-line, using switches and parameters to change the default behavior. However, it is highly recommended that you configure the parameters in the `config.<WEB_APP_SERVER>` configuration file appropriate for your deployment.

4.2.8 To install WDeploy on remote web application server

To deploy web applications to a dedicated web application server, perform a [Web Tier](#) or [Custom / Expand](#) installation with the BI platform installation program. If you prefer to copy the WDeploy tool manually, copy the following folder to the web application server:

```
<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy
```

Note

When copying the WDeploy tool manually, ensure that the environment variable `JAVA_HOME` is configured appropriately on the web application server.

4.3 SAP System Landscape Directory (SLD) registration

Your organization may use the SAP System Landscape Directory (SLD) Data Supplier (DS) to maintain a central repository of information about your organization's SAP software. It provides administrators with detailed information about the system's topology and software components. For more information on setting up the BI platform for SLD, see "Registration of BI platform in the System Landscape" in the *SAP BusinessObjects Business Intelligence Platform Administrator Guide* posted on [BI Platform product page](#) and the [1975394](#).

The SLD registration notifies the SLD when web applications are deployed or undeployed, keeping the SLD database current with the latest information about your organization's web application deployments.

Web application components can be registered with SLD on the following web application servers:

- SAP Netweaver Technology Platform
- Apache Tomcat 7.0 and 8.5
- IBM WebSphere 7.0

4.3.1 To enable SLD registration for SAP Netweaver Technology Platform

SAP System Landscape Directory Data Supplier (SLD-DS) integration is available for SAP Netweaver technology platform. For information on SLD-DS integration and SAP Netweaver technology platform, see the System Landscape Directory SCN document at: <http://scn.sap.com/docs/DOC-8042>.

4.3.2 To enable SLD registration for Tomcat

To use SAP System Landscape Directory Data Supplier (SLD-DS) with Apache Tomcat, the SLDREG registration tool must be installed on each Apache Tomcat web application server.

Note

SLDREG is not installed as a part of the BI platform. For information on installing SLDREG, refer to SAP Note 1018839.

To configure SLDREG so that the SLD is updated whenever web applications are deployed or undeployed from an Apache Tomcat web application server, refer to SAP Note 1508421.

Note

The required `sap.com~TomcatSLDDataSupplierWEB.war` file attached to SAP Note 1508421 can also be found in the `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/warfiles/webapps` folder after the *Java Web Applications* feature is installed during a *Web Tier* installation.

4.3.3 To enable SLD registration for WebSphere

To use SAP System Landscape Directory Data Supplier (SLD-DS) with WebSphere, the SLDREG registration tool must be installed on each WebSphere web application server.

Note

SLDREG is not installed as a part of the BI platform. For information on installing SLDREG, refer to SAP Note 1018839.

To configure SLDREG so that the SLD is updated whenever web applications are deployed or undeployed from a WebSphere web application server, refer to SAP Note 1482727.

4.4 Deployment modes

WDeploy supports two different deployment modes:

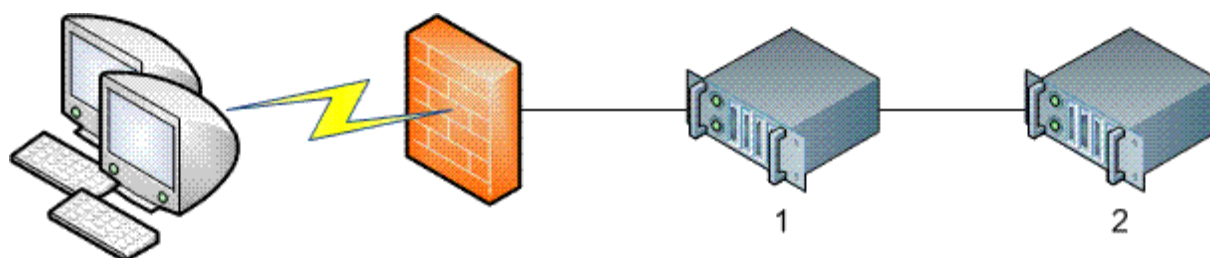
1. Standalone mode (a web application server)
The web application server serves both static content (HTML pages, images, documents, JavaScript, Cascading Style Sheets) and dynamic content (Java Server Pages, JAR files, XML files).
2. Split web tier mode (a web application server plus a dedicated web server)
A dedicated web server receives requests from web browsers and serves all static content (HTML pages, images, documents, JavaScript, Cascading Style Sheets). Requests for dynamic content (Java Server Pages, JAR files, XML files) are forwarded to the dedicated application server and returned to the web browser when the content has been formed.
This mode is suited to larger production deployments where scalability and performance are key.

It is also possible to use WDeploy to deploy web applications to a web application server installed on the same system as the BI platform. This configuration can be used for small development or test systems, and is not recommended for production systems.

4.4.1 Standalone deployments

Standalone mode refers to a web application server serving both static and dynamic content to web clients. The web application server could run on the same machine as the BI platform, or on a separate machine connected by network.

In the following diagram, web clients connect through a firewall to a web application server [1] that serves both static and dynamic content. Processing requests from the web application server are sent to the BI platform Central Management Server (CMS) [2].



In the diagram above, the WDeploy is installed as a component of the CMS [2], and web applications are separated out into directories for static and dynamic content. The dynamic content can now be copied to the web application server [1].

The WDeploy tool can also be installed or copied to a dedicated web application server [1], making it easy to deploy separated content received from a CMS [2].

This mode is best suited for small deployments with a limited number of users. The advantage of a standalone deployment is that it is easy to deploy and maintain, but it may not scale to a large number of users because the web application server delivers both static and dynamic content.

4.4.2 Split web tier deployments

A web tier deployment separates static and dynamic web application content so that static content is served by a web server, and dynamic content is served by a web application server. The web and web application servers could run on the same machine, or separate machines connected to a network.

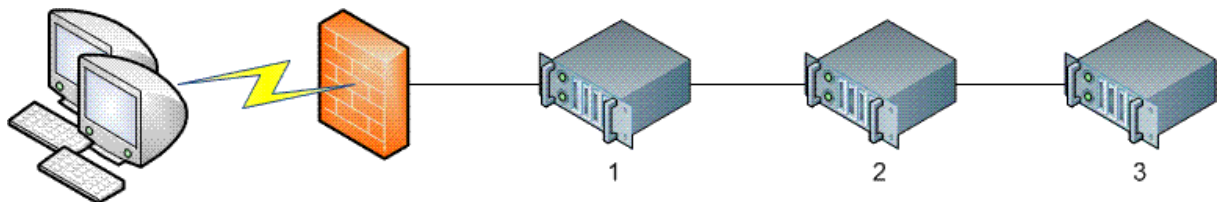
ⓘ Note

There is no performance improvement if you deploy the following web applications in split web tier mode. WDeploy will process these web applications as standalone web applications even in split tier mode:

- dswsbobje (Web Services)
- MobileOTA14
- MOBIServer

- OpenSearch
- jsfplatform

In the following diagram, web clients connect through a firewall to a web server [1] that serves only static content (HTML pages, images, documents, JavaScript, Cascading Style Sheets). When dynamic content is required, the web server sends a request to the web application server [2]. Any requests that require further processing by the BI platform are sent to Central Management Server (CMS) for processing [3].



In the diagram above, the WDeploy is installed as a component of the CMS [3], and web applications are separated out into directories for static and dynamic content. The dynamic content can now be copied to the web application server [2], and the static content copied to the web server [1].

The WDeploy command can also be installed on dedicated web [1] and web application [2] servers, making it easy to deploy separated content received from a CMS [3].

If an organization implements security measures that restrict access to server machines, the separated static and dynamic content can be sent separately to those with the authority to deploy content.

Split deployments are best suited to mid or large-sized deployments with a large or increasing number of users. The advantage of a split deployment is that it is scalable and provides good performance.

Note

Web, web application, and BI platform servers can be clustered to provide an even greater degree of scalability, availability, and performance.

4.4.2.1 Supported dedicated web and web application server combinations

WDeploy supports the following web and web application server configurations for split deployments:

- Apache 2.2 web server with Tomcat 7 or 8
- Apache 2.2 web server with WebLogic 10.3.x
- IBM IHS web server 7 with WebSphere 7.0
- IBM IHS web server 8.5 with WebSphere 8.5 or 8.5.5

Note

Apache and IBM IHS web servers are all given as `apache` in WDeploy configuration files.

4.4.2.2 To deploy web applications on a remote machine

Use the procedure below to deploy web applications to a remote machine. In this procedure, Box 1 refers to the machine hosting a BI platform installation, and Box 2 is the remote machine on which the web application server is installed.

1. Create on Box 2 the following directories.
 - `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy`. This folder contains the WDeploy scripts and configuration files.
 - `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/warfiles/webapps`
 - `<BIP_INSTALL_DIR>/InstallData`

These directories reflect the default directory structure installed on Box 1.

→ Tip

Although you can customize the folder structure to meet your specific requirements, it is recommended that you maintain files within the same folder structure or hierarchy in Box 2 as in Box 1.

2. Copy the following files from Box 1 to Box 2.
 - Folder `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy`.

→ Tip

Remove the contents under `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/workdir` before the file copy, if that folder is not empty.

- Folder `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/warfiles/webapps`.
 - Folder `<BIP_INSTALL_DIR>/InstallData/setup.engine`.
3. Set the `JAVA_HOME` environment variable to the JDK 8 directory.

ⓘ Note

To deploy any web application server using Wdeploy tool we recommend you to use bundled SAP JVM 8.

4. Modify the WDeploy configuration file for your web application server. Provide all the required information to enable WDeploy to deploy the web application.

For example, to modify the configuration file for WebLogic 11, you would modify the file to:

```
as_domain_dir=C:/Oracle/Middleware/user_projects/domains/base_domain
as_instance=AdminServer
as_admin_port=7001
as_admin_username=weblogic
as_admin_password=weblogic
```

The configuration file is located in the following directory:

`<BOE_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/conf/config.<WEB_APP_SERVER>`

5. Run the WDeploy script from its location in Box 2 by opening command line console and entering the following command:

```
<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/wdeploy.sh
```

```

        <WEB_APP_SERVER>
-Dapp_source_tree="<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/warfiles/
webapps"
deployall

```

Note

- You can set WDeploy parameter defaults values in the WDeploy configuration file `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/conf/wdeploy.conf`, instead of giving parameters on the command-line. For example, set the parameters:
 - `app_source_tree` Or `war_dir`
 - `work_dir`
 - `root_context_path`
 For more information, see [WDeploy configuration file \[page 30\]](#).
- You pass the argument `-Dwar_dir` to specify the location of generic WAR files as input for deployment. For example, to deploy a generic BOE.war file:

```

<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/wdeploy.sh
<WEB_APP_SERVER>
-Dwar_dir="/myGenericWarFiles/BOE.war"
-DAPP=BOE
deploy

```

- To create generic WAR files for all BI platform applications, run the following command:

```

<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/wdeploy.sh
buildwarall
-Dapp_source_tree="<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/
warfiles/webapps"
-Dwar_dir="/myGenericWarFiles"

```

- Pass the parameter `-Dwar_dir=<TARGET_LOCATION_OF_GENERIC_WAR_FILE>` to specify the location to output the generic WAR files to.

4.5 WDeploy configuration files

The WDeploy configuration files contain settings saved in a key-value pair text format. Read by WDeploy when it starts, the options and parameters saved in the configuration files are used as default settings and no longer need to be given on the command-line. However, all options and parameters can still be given on the command-line, which overrides the configuration file. Options and parameters given on the command-line do not change the options stored in configuration files.

Note

It is recommended that web application server administrator account passwords are not stored in the WDeploy configuration file, but rather passed to WDeploy from the command-line with the parameter `-Das_admin_password=<PASSWORD>`.

There are three configuration files used by WDeploy:

- WDeploy configuration file (`<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/conf/wdeploy.conf`): stores general WDeploy settings that apply to all web applications servers.

- Web application server configuration files (`<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/conf/config.<WEB_APP_SERVER>`): stores settings for a specific web application server.
- Web application configuration file (`<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/conf/apps/<WEB_APP>.properties`): stores individual deployment settings for each web application.

4.5.1 WDeploy configuration file

The `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/conf/wdeploy.conf` configuration file stores settings likely to be shared among any web application servers in your deployment.

Properties stored in the WDeploy configuration file can be overridden from the command-line using the `-D<PROPERTY>` switch parameter. However, it is highly recommended that you configure the parameters in the `config.<WEB_APP_SERVER>` configuration file appropriate for your deployment.

For a complete list of WDeploy properties, see [WDeploy property parameters \[page 37\]](#).

4.5.2 Web application server configuration files

As each web server and web application server requires different WDeploy settings, the WDeploy tool references a configuration file for each supported server. The configuration files are stored in the WDeploy `conf` folder as follows:

`<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/conf/config.<WEB_APP_SERVER>`

Substitute `<WEB_APP_SERVER>` for the name of the web application server to which the WDeploy tool deploys.

The following list shows all configuration files for currently supported web application servers:

- `config.jboss7` (JBoss 7.1)
- `config.sapappsvr73` (SAP Netweaver Technology Platform)
- `config.tomcat7` (Tomcat 7.0)
- `config.tomcat8` (Tomcat 8.5)
- `config.tomcat9` (Tomcat 9)
- `config.weblogic11` (WebLogic 10.3.x (11gR1))
- `config.websphere7` (WebSphere 7.0)
- `config.websphere8` (WebSphere 8.5 or 8.5.5)
- `config.websphere9` (WebSphere 9)

The following sections list the configuration options available for each supported web and web application server.

4.5.2.1 JBoss 7.1 configuration file

Set default values for the following parameters in `config.jboss7` (JBoss 7.1) to avoid having to give them on the command-line every time.

Mandatory WDeploy parameters for JBoss 7.1

Parameter name	Description	Example
as_dir	Installed location of the JBoss web application server (<JBOSS_HOME>).	<code>/opt/jboss-as-7.1.1.Final</code>
as_instance	Name of the JBoss application server instance.	<code>default</code>

4.5.2.2 Tomcat 7, 8, 8.5, or 9 configuration file

Set default values for the following parameters in `config.tomcat7`, `config.tomcat8`, or `config.tomcat9` to avoid having to give them on the command-line every time.

When deploying to a split environment, where a Tomcat web application server is paired with a dedicated Apache web server, see [To deploy to separate Apache web and Tomcat web application servers \[page 60\]](#).

Mandatory WDeploy parameters for Tomcat 7, 8, 8.5, or 9

Parameter name	Description	Example
as_instance	Application server instance name.	<code>localhost</code>
as_service_name	Name of the Tomcat service when the application server is installed as a Windows service (only applicable for installations on Microsoft Windows).	<code>Tomcat7</code> , <code>Tomcat8</code> , or <code>Tomcat9</code>
as_dir	Installed location of Tomcat 7, 8, 8.5, or 9.	<code>/opt/tomcat</code>
as_service_key	Registry key used by Tomcat to give Java parameters (only applicable for installations on Microsoft Windows).	<code>HKLM\SOFTWARE\Wow6432Node\Apache Software Foundation\Procrun 2.0\<as_service_name>\Parameters\Java</code>
as_service_key_value	Tomcat's Java parameters: the value of the registry key <code>as_server_key</code> .	Options.

4.5.2.3 WebLogic 11gR1 configuration file

Set default values for the following parameters in `config.weblogic11` to avoid having to give them on the command-line every time.

Mandatory WDeploy parameters for WebLogic 11gR1

Parameter name	Description	Example
as_admin_port	WebLogic administration request port.	<code>7001</code>

Parameter name	Description	Example
as_admin_username	WebLogic administrative account user-name.	weblogic
as_admin_password	WebLogic administrative account password.	password
as_instance	Name of the WebLogic application server instance.	AdminServer
as_domain_dir	WebLogic domain directory.	/opt/bea/weblogic/ user_projects/domains/ base_domain

4.5.2.4 WebSphere 7, 8.5, or 8.5.5 configuration file

Set default values for the following parameters in `config.websphere7` or `config.websphere8` to avoid having to give them on the command-line every time.

Mandatory WDeploy parameters for WebSphere 7, 8.5, or 8.5.5

Parameter name	Description	Example value
as_soap_port	Port number for SOAP application server administration. If not set, the default SOAP port number will be used.	8880
as_instance	The name of the WebSphere application server instance.	server1
as_admin_password	WebSphere administrative account password.	password
as_admin_username	WebSphere administrative account user-name.	administrator
as_profile_name	Name of the profile created for WebSphere Application Server. Give this parameter when a non-default profile is used for the deployment.	AppSrv01
as_virtual_host	Virtual host to which the application must be bound.	default_host
as_admin_is_secure	Instructs WDeploy that WebSphere security is enabled.	false

Note

Values for `as_admin_username` and `as_admin_password` must be set when `as_admin_is_secure` is true").

Parameter name	Description	Example value
as_dir	Installed location of WebSphere.	<code>/opt/IBM/WebSphere/AppServer</code>
ws_instance	Web server instance when deployed to a split environment (dedicated web server).	<code>webserver1</code>
enforce_file_limit	Indicates to WDeploy whether or not the web application server may encounter issues loading applications that contain more than 65,535 files (false by default).	false
as_plugin_cfg_dir	Location of the WebSphere plugin-cfg.xml file. This parameter is only required for split web tier deployments.	<code>/opt/AppServers/IBM/WebSphere7/profiles/AppSrv01/config/cells/<cell_name>/nodes/<webserver_node>/servers/<webserver_name></code>

4.5.2.5 WebSphere Liberty 19, 20, and 21 configuration files

Set default values for the following parameters in `config.websphereL19` or `config.websphereL20`, and `config.websphereL21` to avoid having to give them on the command-line every time.

Mandatory WDeploy parameters for WebSphere Liberty 19, 20, or 21

Parameter Name	Description	Example Value
as_instance	The name of the WebSphere application server instance.	server1
as_dir	Installed location of WebSphere.	<code>/opt/IBM/WebSphere/AppServer</code>
enforce_file_limit	Indicates to WDeploy whether or not the web application server may encounter issues loading applications that contain more than 65,535 files (false by default).	FALSE

Mandatory WDeploy parameters for WebSphere Liberty 19,20 and 21

4.5.2.6 Dedicated web servers in split deployments

When deploying web applications to a dedicated web server in split deployments, use the name of the supported web server:

- `config.apache` (Apache Web Server or IBM IHS)

Note

It is recommended that web application server administrator account passwords are not stored in the WDeploy configuration file, but rather passed to WDeploy from the command-line with the parameter `-Das_admin_password=<PASSWORD>`.

Split deployments employ a dedicated web application server to serve dynamic content, and a dedicated web server to serve static content. The following table lists the web application servers that can be configured for a split deployment of the BI platform.

Application Server	Apache web server
JBoss 7.1	No
SAP NetWeaver Technology Platform	N/A
Tomcat 7.0	Yes
Tomcat 8.5	Yes
WebLogic 11gR1	Yes
WebSphere 7	Yes (IHS 7)
WebSphere 8.5 and 8.5.5	Yes (IHS 8.5)

4.5.2.6.1 Apache or IBM IHS (split deployment) configuration file

Set default values for the following parameters in `config.apache` to avoid having to give them on the command-line every time.

Note

The same configuration file (`config.apache`) is used for Apache 2.2 or IBM IHS.

Mandatory WDeploy parameters for Apache 2.2 or IBM IHS (split deployment)

Parameter name	Description	Example
<code>connector_type</code>	The Apache connector type used to configure split mode	<code>tomcat8</code>

Parameter name	Description	Example
deployment_dir	Directory under which WDeploy creates a subdirectory for static content served by the web server. WDeploy creates a virtual directory on the web server, mapping the subdirectory to the URL.	<code>/opt/apache2/htdocs</code>
plugin_install_dir	The root plugin installation directory for WebSphere application servers.	<code>\${ws_dir}/Plugins</code>
ws_dir	The Apache web server installation directory.	<code>/opt/apache2</code>

Note

When using IBM IHS with a WebSphere 7, 8.5, 8.5.5, or 9 web application server, ensure that `as_plugin_cfg_dir` is correctly configured in `config.websphere7`, `config.websphere8`, or `config.websphere9`.

4.5.3 Web application configuration property file

Each web application can be deployed to a different location on the web application server, and can be configured with different packaging options.

Each deployable web application is configured in the configuration file `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/conf/app/<WEB_APP>.properties`.

The following settings are available in a `<WEB_APP>.properties` configuration file:

Variable	Description	Example
warfile	Name of the WAR file to create for this web application.	<code>dswsbobje.war</code>
appvdir	Name of the context path (also known as a virtual directory) to which the web application is deployed.	<code>dswsbobje</code>
buildfile	Ant build file used to build the web application.	<code>dswsbobje.xml</code>
deploy_as_a_filetree	Toggle to enable the deployment of an exploded WAR file when true.	<code>true</code>
classloading_mode	Setting to determine the Class-loader order.	<code>PARENT_LAST</code>
classloader_package_filtering	Filter for classloader.	<code>com.ctc.wstx.*, javax.xml.*, org.apache.*</code>

When deploying a web application to a specific location on a web application server, use the `appvdir` variable to set the location of the web application within the server's root context. For example, if a web application

server's root context was `http://www.mycompany.com/BOE`, setting `appvdir` to `mywebapp/` would result in the web application being accessible from `http://www.mycompany.com/BOE/mywebapp/`.

4.6 Using the WDeploy command-line tool

Before using the WDeploy command-line tool, ensure that the WDeploy configuration files have been configured appropriately for your web application server. See [WDeploy configuration files \[page 29\]](#).

For information on WDeploy prerequisites, see:

- [WDeploy prerequisites \[page 17\]](#)
- [WDeploy GUI tool prerequisites \[page 71\]](#)

The WDeploy command-line tool is installed as a part of the BI platform:

```
<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/wdeploy.sh
```

There are two types of commands:

- General commands
Used to provide high-level information about the tool itself and the available web application server deployment. They are not used together with server names, properties, or actions. For example:
 - `wdeploy.sh help`
 - `wdeploy.sh listappservers`
- Deployment commands
Used to deploy specific web applications to a specific web application server. These commands always follow the format: server, properties, action. For example:

```
wdeploy.sh <WEB_APP_SERVER> [-D<PROPERTY>=<value>] <ACTION>
```

Where:

- `<WEB_APP_SERVER>` is the name of the web or web application server and must match the name of the WDeploy configuration file `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/conf/config.<WEB_APP_SERVER>`.
For example, for SAP Netweaver technology platform, the configuration file is named `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/conf/config.sapappsrv75`, so the name given for the `<WEB_APP_SERVER>` parameter is `sapappsrv75`.
- `-D<PROPERTY>=<value>` is at least one key-value pair. Parameters given on the command-line override those in the configuration file.
For example, to deploy the BOE web application, use `-DAPP=BOE`. This overrides any value for `-DAPP=` stored in the web application server configuration file `config.<WEB_APP_SERVER>`.
- `<ACTION>` is the name of the operation to perform.
For example, the `deployall` action will deploy all web applications to the web application server given as `<WEB_APP_SERVER>` in the first parameter.

4.6.1 Syntax

4.6.1.1 WDeploy server names

WDeploy uses a server name on the command-line and as part of the filename for server configuration files. The server name is the first parameter given on the command-line when running the WDeploy tool:

```
wdeploy.sh <WEB_APP_SERVER> [-D<PROPERTY>=<value>] <ACTION>
```

<WEB_APP_SERVER> is the name of the web or web application server. The name given must match the name of the configuration file in <BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/conf.

For a complete list of valid names for <WEB_APP_SERVER>, see [Values for WEB_APP_SERVER \[page 45\]](#).

4.6.1.2 WDeploy property parameters

WDeploy properties can be set on the command-line with the -D<PROPERTY> switch parameter. Repeat the -D<PROPERTY> switch parameter for each property to be set.

For example, in the following command, multiple invocations of the -D<PROPERTY> switch parameter are used to set multiple properties for a Tomcat 8 web application server (as_dir, as_instance, as_service_name, and APP):

```
wdeploy.sh Tomcat8
-Das_dir=/opt/tomcat8
-Das_instance=localhost
-Das_service_name=Tomcat8
-DAPP=BOE
deployonly
```

Properties can also be configured in the wdeploy.config configuration file. This allows properties to be set by default, and over-ridden from the command-line when required. For more information on the wdeploy.conf configuration file, see [WDeploy configuration file \[page 30\]](#).

The following table lists all properties for WDeploy.


Properties for WDeploy

Property	Description	Example value
APP	Name of the web application to deploy, as found in the WAR or EAR file name and the web application properties file: <BIP_INSTALL_DIR>/sap_bobj/ enterprise_xi40/wdeploy/conf/apps/ <WEB_APP>.properties This property is used when working with individual web applications, as with the wdeploy predeploy, wdeploy deploy, or wdeploy deployonly commands.	BOE

Property	Description	Example value
app_source_dir	Location of an individual web application's source files. This property is used when working with individual web applications, as with the <code>wdeploy predeploy</code> , <code>wdeploy deploy</code> , or <code>wdeploy deployonly</code> commands.	<code><BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/warfiles/webapps/<WEB_APP></code>
app_source_tree	Location of the source files for all available web applications (the parent folder of <code>app_source_dir</code>). This property is used when working with all available web applications simultaneously, as with the <code>wdeploy predeployall</code> , <code>wdeploy deployall</code> or <code>wdeploy deployonlyall</code> commands.	<code><BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/warfiles/webapps</code>
as_admin_is_secure	For web application servers that use SSL encryption during web application deployment, such as WebSphere. Note Setting this value to true indicates requires that you also give an administrator account name and password.	false (default) true
as_admin_password	Web application server administrative account password.	password
as_admin_port	Port number for web application server administrative access.	8080
as_admin_username	Web application server administrative account username.	administrator
as_dir	Installation directory of the web application server.	<code>/opt/tomcat8</code>
as_domain_dir	Installation directory of the web application server. For WebLogic application servers, <code>as_domain_dir</code> is the domain root.	<code>/opt/boa/weblogic</code>
as_instance	Mandatory for all the application servers. Name of the web application server instance.	localhost

Property	Description	Example value
as_lang	Preferred language for the WDeploy user interface.	<ul style="list-style-type: none"> Czech: CS Danish: DA Dutch: NL English: EN Finnish: FI French: FR German: DE Hungarian: HU Italian: IT Japanese: JA Korean: KO Norwegian Bokmal: NB Polish: PL Portuguese: PT Romanian: RO Russian: RU Simplified Chinese: zh_CN Slovak: SK Spanish: ES Swedish: SV Thai: TH Traditional Chinese: zh_TW Turkish: TR
as_mode	<p>Type of web application deployment.</p> <p>A standalone is a web application server that serves both static and dynamic web content. A split deployment uses a dedicated web server to serve static content, and a web application server to serve dynamic content.</p>	<p>standalone</p> <p>split</p>
as_service_key	<p>For Tomcat running on Windows.</p> <p>When installed as a service, the name of the Windows registry key where the JVM startup parameters are stored.</p>	HKLM\SOFTWARE\Apache Software Foundation\Procrun 2.0\<AS_SERVICE_NAME>\Parameters\Java
as_service_key_value	<p>For Tomcat running on Windows.</p> <p>When installed as a service, the value of Windows registry key where the JVM startup parameters are stored.</p>	
as_service_name	<p>For Tomcat running on Windows.</p> <p>The name of the Tomcat service.</p>	Tomcat8
as_sid	The system ID of the target instance.	AS1

Property	Description	Example value
as_soap_port	Mandatory for WebSphere. Port number for SOAP application server administration. If not set, the default SOAP port number is used.	8880
as_virtual_host	For WebSphere only. Virtual host to which the application must be bound.	default_host
connector_type	For web servers running in split mode, such as Apache. Set <code>connector_type</code> to the name of the dedicated web application server used by the web server.	tomcat8
deploy_as_a_filetree	For WebLogic web application servers. Indicates whether the application must be deployed as a file tree (expanded format) or as a packaged WAR or EAR file.	false (default) true
deployment_dir	Directory under which WDeploy creates a subdirectory for static content served by a dedicated web server. WDeploy creates a virtual directory on the web server, mapping the subdirectory to the URL.	/opt/apache2
disable_CmcApp	Disables the CMC web application when set to true.	false true
disable_InfoView	Disables the BI launch pad web application when set to true.	false true
enforce_file_limit	Tells WDeploy whether or not the web application contains more than 85,535 files. Set to false by default, except for WebSphere.	false (default) true
JCoStandalone	Use when the BI platform is integrated with an SAP BW system. Set to false when deploying to an SAP Netweaver Web application server component . Set to true when deploying to any other application server.	false true
recent_app_svr	The most recent web application server to which web applications were deployed.	Tomcat8
root_context_path	Web application root context path to which all web applications are deployed. To deploy a web application to a folder within the root context, see the <code>appvdir</code> setting in the web application <code>.properties</code> configuration file.	/BOE
work_dir	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 <code>wdeploy predeploy</code> action and stores data required to undeploy web applications.	<BIP_INSTALL_DIR>/ sap_bobj/ enterprise_xi40/ wdeploy/workdir

Property	Description	Example value
ws_dir	For web servers running in split mode, such as Apache. The web server home directory.	/opt/apache2
ws_instance	For WebSphere only. The name of the web server where the application is installed, in split mode.	webserver1
ws_type	For web servers running in split mode, such as Apache. The name of the web server, as found to the <code><BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/conf/config.<WEB_SERVER></code> file.	apache
<div>  Note Apache and IBM HTTP Server both have a <code>ws_type</code> of <code>apache</code>. </div>		
war_dir	Location of WAR or EAR archives to deploy or the target output location to create generic WAR files in.	/myGenericWarFiles

4.6.1.2.1 Mandatory property parameters for split web tier deployments

Some properties are required for split web tier deployments (separate web and web application servers). When deploying to a split web tier deployment, ensure that the following property parameters are either given on the command-line, or are configured in the web or web application server configuration file (config.<WEB_APP_SERVER>).

- Set the `-Das_mode=split` property to separate static content for the web server and dynamic content for the web application server.
- Set the `-Dconnector_type=<CONNECTOR_TYPE>` property to the appropriate connector type. Set `connector_type` to the name of the dedicated web application server used by the web server. For example, when using an Apache web server and a Tomcat 8 web application server, `connector_type` should be set to `tomcat8`.
- On deployments where the web server runs on the same host as the web application server, you must give the `-Dws_type=<WEB_SERVER_TYPE>` and `-Dws_dir=<WEB_SERVER_DIR>` properties.

4.6.1.3 WDeploy actions

The last parameter of a WDeploy command is the action to be performed. The following section defines each valid action, and what each does.

Action	Description
predeploy	<p>The <code>wdeploy predeploy</code> command prepares a web application for deployment to the target web application server.</p> <p>The web application's <code>web.xml</code> configuration file is updated, along with any other changes required to make the web application deployable to the target web application server.</p> <p>Once configured, the web application is packaged into a WAR or EAR file and saved to <code><BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/workdir/<WEB_APP_SERVER></code>.</p> <p>This file can be deployed manually through the web application server's administrative console, or with the <code>wdeploy deploy</code> command.</p> <p>Use <code>wdeploy predeploy</code> to prepare the BOE web application so that it is ready for deployment to a specific web application server. For example:</p> <pre>wdeploy.sh <WEB_APP_SERVER> -DAPP=BOE predeploy</pre>
predeployall	<p>The <code>wdeploy predeployall</code> command performs the <code>wdeploy predeploy</code> command for all web applications located in the BI platform web application source directory:</p> <p><code><BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/warfiles/webapps</code></p> <p>Use <code>wdeploy predeployall</code> to apply the <code>wdeploy predeploy</code> command to all web applications. For example:</p> <pre>wdeploy.sh <WEB_APP_SERVER> predeployall</pre> <div> <p>Note</p> <p>Predeployment does not require access to the web application server, with the exception of WebSphere. When deploying to WebSphere, the <code>default_virtual_host</code> parameter is mandatory.</p> </div>
deploy	<p>The <code>wdeploy deploy</code> command is a concatenation of the <code>wdeploy predeploy</code> and <code>wdeploy deployonly</code> commands, which prepares and deploys a web application to the target web application server with just one command.</p> <p>Use <code>wdeploy deploy</code> to prepare and deploy the BOE web application to the target web application server.</p> <pre>wdeploy.sh <WEB_APP_SERVER> -DAPP=BOE deploy</pre>

Action	Description
deployall	<p>The <code>wdeploy deployall</code> command performs the <code>wdeploy deploy</code> command for all web applications located in the BI platform web application source directory:</p> <pre><BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/warfiles/webapps</pre> <p>Use <code>wdeploy deployall</code> to apply the <code>wdeploy deploy</code> command to all web applications. For example:</p> <pre>wdeploy.sh <WEB_APP_SERVER> deployall</pre>
deployonly	<p>The <code>wdeploy deployonly</code> command deploys a prepared web application to the target web application server.</p> <p>Deployable WAR or EAR files located in <code><BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/workdir/<WEB_APP_SERVER></code> are deployed to the web application server by the <code>wdeploy deployonly</code> command invoking the web application server's command-line interface.</p> <p>If a web application has not already been prepared for deployment, the <code>wdeploy predeploy</code> command is called automatically.</p> <p>Use <code>wdeploy deployonly</code> to deploy a prepared BOE web application to a web application server. For example:</p> <pre>wdeploy.sh <WEB_APP_SERVER> -DAPP=BOE deployonly</pre>
deployonlyall	<p>The <code>wdeploy deployonlyall</code> command performs the <code>wdeploy deployonly</code> command for all prepared web applications.</p> <p>Use <code>wdeploy deployonlyall</code> to apply the <code>wdeploy deployonly</code> command to all prepared web applications. For example:</p> <pre>wdeploy.sh <WEB_APP_SERVER> deployonlyall</pre>
buildwarall	<p>Builds a generic WAR file from the web application source tree. For example:</p> <pre>wdeploy.sh buildwarall -Dapp_source_tree=<LOCATION_OF_APP_SOURCE_TREE> -Dwar_dir=<TARGET_LOCATION_OF_GENERIC_WAR_FILE></pre>
listapps	<p>Lists the web applications available for deployment to a web application server. For example:</p> <pre>wdeploy.sh <WEB_APP_SERVER> listapps</pre>
listdeployedapps	<p>Lists all web applications currently deployed to a web application server. This action can only be run on a web server or web application server system. For example:</p> <pre>wdeploy.sh <WEB_APP_SERVER> listdeployedapps</pre>

Action	Description
undeploy	<p>The <code>wdeploy undeploy</code> command invokes the target web application server's command-line interface to remove a deployed BI platform web application from the server.</p> <p>Use the <code>wdeploy undeploy</code> command to undeploy the BOE web application from the target web application server.</p> <pre>wdeploy.sh <WEB_APP_SERVER> -DAPP=BOE undeploy</pre>
undeployall	<p>The <code>wdeploy undeployall</code> command performs the <code>wdeploy undeploy</code> command for all BI platform web applications deployed to the target web application server. For example:</p> <pre>wdeploy.sh <WEB_APP_SERVER> undeployall</pre>
validateconfig	<p>Validates the WDeploy configuration for the supported web application servers to ensure that the deployment can be successful. For example:</p> <pre>wdeploy.sh <WEB_APP_SERVER> validateconfig</pre>

Substitute `<WEB_APP_SERVER>` for the name of the web application server.

4.6.1.4 WDeploy general commands

WDeploy general commands are used to provide high-level information about the tool itself and the available web application server deployment. They are not used together with server names, properties, or actions. The following general commands are available:

- `wdeploy help`: displays a summary of available WDeploy command-line usage.
- `wdeploy listappservers`: lists all Java web application servers supported by this version of WDeploy.
- `wdeploy version`: displays the version number of the WDeploy tool itself.
- `wdeploy buildwarall`: generates a generic WAR file by using the web application source tree.

Usage:

```
wdeploy.sh
buildwarall
-Dapp_source_tree=<LOCATION_OF_WEB_APP_SOURCE>
-Dwar_dir=<TARGET_LOCATION_OF_GENERIC_WAR_FILES>
```

For example:

```
wdeploy.sh
buildwarall
-Dapp_source_tree=/sap/sap_bobj/enterprise_xi40/warfiles/webapps
-Dwar_dir=/myGenericWarFiles
```

4.6.2 Examples of using WDeploy

This section contains examples of using WDeploy commands for supported web application servers.

→ Remember

Before using WDeploy, ensure that the WDeploy configuration files have been configured appropriately for your web application server. See [WDeploy configuration files \[page 29\]](#). Read [Special considerations \[page 59\]](#) for a list of important information specific to your web application server.

4.6.2.1 Values for WEB_APP_SERVER

In the following examples, substitute the variable `<WEB_APP_SERVER>` for the name of your web application server, as shown in the table below.

Web application server	<code><WEB_APP_SERVER></code> name
JBoss 7.1	<code>jboss7</code>
SAP Netweaver Technology Platform	<code>sapappsrv73</code>
Tomcat 7.0	<code>tomcat7</code>
Tomcat 8 or 8.5	<code>tomcat8</code>
Tomcat 9	<code>tomcat9</code>
WebLogic 11gR1	<code>weblogic11</code>
WebSphere 7.0	<code>websphere7</code>
WebSphere 8.5 or 8.5.5	<code>websphere8</code>
WebSphere 9	<code>websphere9</code>

4.6.2.2 wdeploy predeploy

The `wdeploy predeploy` command prepares a web application for deployment to the target web application server.

The web application's internal `web.xml` configuration file is set by WDeploy, along with any other changes required to make the web application deployable to the target web application server.

Once configured, the web application is packaged into a WAR or EAR file and saved to `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/<WEB_APP_SERVER>`.

The resulting WAR or EAR file can be deployed manually through the web application server's administrative console, or with the `wdeploy deploy` command.

Example

For example, use `wdeploy predeploy` to prepare the BOE web application so that it is ready for deployment to a specific web application server.

```
wdeploy.sh <WEB_APP_SERVER>
-DAPP=BOE
predeploy
```

Substitute `<WEB_APP_SERVER>` for the name of the web application server, as shown in the following table.

The table below lists example parameters for predeploying the BOE web application for specific web application servers. All parameters are required, unless they are marked as optional in the configuration files. Parameters given on the command-line over-ride those stored in configuration files. However, it is recommended that you configure the parameters in the `config.<WEB_APP_SERVER>` configuration file appropriate for your deployment.

Server	Parameters
JBoss 7.1 (jboss7)	<pre>wdeploy.sh jboss7 -Das_instance=default -DAPP=BOE predeploy</pre>
SAP Technology (sapappsvr73)	<pre>wdeploy.sh sapappsvr73 -DAPP=BOE predeploy</pre>
Tomcat 7.0 (tomcat7)	<pre>wdeploy.sh tomcat7 -DAPP=BOE predeploy</pre>
Tomcat 8 or 8.5 (tomcat8)	<pre>wdeploy.sh tomcat8 -DAPP=BOE predeploy</pre>
Tomcat 9 (tomcat9)	<pre>wdeploy.sh tomcat9 -DAPP=BOE predeploy</pre>

Server	Parameters
WebLogic 11gR1 (weblogic11)	<pre>wdeploy.sh weblogic11 -DAPP=BOE predeploy</pre> <p>If the WegLogic web application server is hosted on a Linux machine that uses the JRockit Java Virtual Machine, and if you are predeploying the dswsbobje or the BOE web applications, you must include the -Djvm_is_jrockit=true option:</p> <pre>wdeploy weblogic11 -DAPP=dswsbobje -Djvm_is_jrockit=true predeploy wdeploy weblogic11 -DAPP=BOE -Djvm_is_jrockit=true predeploy</pre>
WebSphere 7.0 (websphere7)	<pre>wdeploy.sh websphere7 -Das_virtual_host=default_host -DAPP=BOE predeploy</pre>
WebSphere 8.5 or 8.5.5 (websphere8)	<pre>wdeploy.sh websphere8 -Das_virtual_host=default_host -DAPP=BOE predeploy</pre>
WebSphere 9 (websphere9)	<pre>wdeploy.sh websphere9 -Das_virtual_host=default_host -DAPP=BOE predeploy</pre>

4.6.2.3 wdeploy predeployall

The `wdeploy predeployall` command performs the `wdeploy predeploy` command for all web applications located in the BI platform web application source directory:

```
<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/warfiles/webapps
```

Example

For example, use `wdeploy predeployall` to apply the `wdeploy predeploy` command to all web applications.

```
wdeploy.sh <WEB_APP_SERVER> predeployall
```

Substitute `<WEB_APP_SERVER>` for the name of the web application server, as shown in the following table.

The table below lists example parameters for predeploying all web applications for specific web application servers. All parameters are required, unless they are marked as optional in the configuration files. Parameters given on the command-line over-ride those stored in configuration files. However, it is recommended that you configure the parameters in the `config.<WEB_APP_SERVER>` configuration file appropriate for your deployment.

Server	Parameters
JBoss 7.1 (jboss7)	<pre>wdeploy.sh jboss7 predeployall</pre>
SAP Technology (sapappsvr73)	<pre>wdeploy.sh sapappsvr73 predeployall</pre>
Tomcat 7.0 (tomcat7)	<pre>wdeploy.sh tomcat7 predeployall</pre>
Tomcat 8 or 8.5 (tomcat8)	<pre>wdeploy.sh tomcat8 predeployall</pre>
Tomcat 9 (tomcat9)	<pre>wdeploy.sh tomcat9 predeployall</pre>
WebLogic 11gR1 (weblogic11)	<pre>wdeploy.sh weblogic11 predeployall</pre> <p>If the WebLogic web application server is hosted on a Linux machine that uses the JRockit Java Virtual Machine, and if you are predeploying the dswebobje or the BOE web applications, you must include the <code>-Djvm_is_jrockit=true</code> option:</p> <pre>wdeploy.sh weblogic11 -Djvm_is_jrockit=true predeployall</pre>
WebSphere 7.0 (websphere7)	<pre>wdeploy.sh websphere7 -Das_virtual_host=default_host predeployall</pre>
WebSphere 8.5 or 8.5.5 (websphere8)	<pre>wdeploy.sh websphere8 -Das_virtual_host=default_host predeployall</pre>
WebSphere 9 (websphere9)	<pre>wdeploy.sh websphere9 -Das_virtual_host=default_host predeployall</pre>

4.6.2.4 wdeploy deployonly

The `wdeploy deployonly` command deploys a prepared web application to the target web application server.

Deployable WAR or EAR files located in `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/workdir/<WEB_APP_SERVER>` are deployed to the web application server by the `wdeploy deployonly` command invoking the web application server's command-line interface.

If a web application has not already been prepared for deployment, the `wdeploy predeploy` command is called automatically.

Example

For example, use `wdeploy deployonly` to deploy a prepared BOE web application to a web application server.

```
wdeploy.sh <WEB_APP_SERVER>
-DAPP=BOE
deployonly
```

Substitute `<WEB_APP_SERVER>` for the name of the web application server, as shown in the following table.

The table below lists example parameters for deploying the BOE web application to specific web application servers. All parameters are required, unless they are marked as optional in the configuration files. Parameters given on the command-line over-ride those stored in configuration files. However, it is recommended that you configure the parameters in the `config.<WEB_APP_SERVER>` configuration file appropriate for your deployment.

Server	Parameters
JBoss 7.1 (jboss7)	The <code>wdeploy deployonly</code> command does not support JBoss 7.1. You must use the <code>wdeploy predeploy</code> or <code>wdeploy predeployall</code> commands of the WDeploy tool to create WAR files and deploy manually using the JBoss Command Line Interface (CLI) or the file system deployment scanner.
SAP NetWeaver Technology Platform(sapappsvr73)	The <code>wdeploy deployonly</code> command does not support SAP NetWeaver Technology Platform. You must use the <code>wdeploy predeploy</code> or <code>wdeploy predeployall</code> commands of the WDeploy tool to create SCA files and deploy manually using SAP Software Update Manager (SUM).
Tomcat 7.0 (tomcat7)	<pre>wdeploy.sh tomcat7 -Das_dir=/opt/tomcat7 -Das_instance=localhost -Das_service_name=Tomcat7 -DAPP=BOE deployonly</pre>

Server	Parameters
Tomcat 8 or 8.5 (tomcat8)	<pre>wdeploy.sh tomcat8 -Das_dir=/opt/tomcat8 -Das_instance=localhost -Das_service_name=Tomcat8 -DAPP=BOE deployonly</pre>
Tomcat 9 (tomcat9)	<pre>wdeploy.sh tomcat9 -Das_dir=/opt/tomcat9 -Das_instance=localhost -Das_service_name=Tomcat9 -DAPP=BOE deployonly</pre>
WebLogic 11gR1 (weblogic11)	<pre>wdeploy.sh weblogic11 -Das_domain_dir=/opt/bea/user_projects/domains/ base_domain -Das_admin_port=7001 -Das_instance=AdminServer -Das_admin_username=weblogic -Das_admin_password=weblogic -DAPP=BOE deployonly</pre>
WebSphere 7.0 (websphere7)	<pre>wdeploy.sh websphere7 -Das_dir=/opt/IBM/WebSphere/AppServer -Das_instance=server1 -Das_virtual_host=default_host -Das_profile_name=AppSrv01 -Das_soap_port=8880 -DAPP=BOE deployonly</pre>
WebSphere 8.5 or 8.5.5 (websphere8)	<pre>wdeploy.sh websphere8 -Das_dir=/opt/IBM/WebSphere/AppServer -Das_instance=server1 -Das_virtual_host=default_host -Das_profile_name=AppSrv01 -Das_soap_port=8880 -DAPP=BOE deployonly</pre>
WebSphere 9 (websphere9)	<pre>wdeploy.sh websphere9 -Das_dir=/opt/IBM/WebSphere/AppServer -Das_instance=server1 -Das_virtual_host=default_host -Das_profile_name=AppSrv01 -Das_soap_port=8880 -DAPP=BOE deployonly</pre>

4.6.2.5 wdeploy deployonlyall

The `wdeploy deployonlyall` command performs the `wdeploy deployonly` command for all prepared web applications.

Example

For example, use `wdeploy deployonlyall` to apply the `wdeploy deployonly` command to all prepared web applications.

```
wdeploy.sh <WEB_APP_SERVER> deployonlyall
```

Substitute `<WEB_APP_SERVER>` for the name of the web application server, as shown in the following table.

The table below lists example parameters for deploying all web applications to specific web application servers. All parameters are required, unless they are marked as optional in the configuration files. Parameters given on the command-line over-ride those stored in configuration files. However, it is recommended that you configure the parameters in the `config.<WEB_APP_SERVER>` configuration file appropriate for your deployment.

Server	Parameters
JBoss 7.1 (jboss7)	The <code>wdeploy deployonlyall</code> command does not support JBoss 7.1. You must use the <code>wdeploy predeploy</code> or <code>wdeploy predeployall</code> commands of the WDeploy tool to create WAR files and deploy manually using the JBoss Command Line Interface (CLI) or the file system deployment scanner.
SAP Technology (sapappsvr73)	The <code>wdeploy deployonlyall</code> command does not support SAP technology. You must use the <code>wdeploy predeploy</code> or <code>wdeploy predeployall</code> commands of the WDeploy tool to create SCA files and deploy manually using SAP Software Update Manager (SUM).
Tomcat 7.0 (tomcat7)	<pre>wdeploy.sh tomcat7 -Das_dir=/opt/tomcat7 -Das_instance=localhost -Das_service_name=Tomcat7 deployonlyall</pre>
Tomcat 8 or 8.5 (tomcat8)	<pre>wdeploy.sh tomcat8 -Das_dir=/opt/tomcat8 -Das_instance=localhost -Das_service_name=Tomcat8 deployonlyall</pre>
Tomcat 9 (tomcat9)	<pre>wdeploy.sh tomcat9 -Das_dir=/opt/tomcat9 -Das_instance=localhost -Das_service_name=Tomcat9 deployonlyall</pre>

Server	Parameters
WebLogic 11gR1 (weblogic11)	<pre>wdeploy.sh weblogic11 -Das_domain_dir=/opt/bea/user_projects/domains/ base_domain -Das_admin_port=7001 -Das_instance=AdminServer -Das_admin_username=weblogic -Das_admin_password=weblogic deployonlyall</pre>
WebSphere 7.0 (websphere7)	<pre>wdeploy.sh websphere7 -Das_dir=/opt/ibm/WebSphere/AppServer -Das_instance=server1 -Das_virtual_host=default_host -Das_profile_name=AppSrv01 -Das_soap_port=8880 deployonlyall</pre>
WebSphere 8.5 or 8.5.5 (websphere8)	<pre>wdeploy.sh websphere8 -Das_dir=/opt/ibm/WebSphere/AppServer -Das_instance=server1 -Das_virtual_host=default_host -Das_profile_name=AppSrv01 -Das_soap_port=8880 deployonlyall</pre>
WebSphere 9 (websphere9)	<pre>wdeploy.sh websphere9 -Das_dir=/opt/ibm/WebSphere/AppServer -Das_instance=server1 -Das_virtual_host=default_host -Das_profile_name=AppSrv01 -Das_soap_port=8880 deployonlyall</pre>

4.6.2.6 wdeploy deploy

The `wdeploy deploy` command is a concatenation of the `wdeploy predeploy` and `wdeploy deployonly` commands, which prepares and deploys a web application to the target web application server with just one command.

Example

For example, use `wdeploy deploy` to prepare and deploy the BOE web application to the target web application server.

```
wdeploy.sh <WEB_APP_SERVER>
-DAPP=BOE
deploy
```

Substitute `<WEB_APP_SERVER>` for the name of the web application server, as shown in the following table.

The table below lists example parameters for deploying the BOE web application to specific web application servers. All parameters are required, unless they are marked as optional in the configuration files. Parameters given on the command-line over-ride those stored in configuration files. However, it is recommended that you configure the parameters in the `config.<WEB_APP_SERVER>` configuration file appropriate for your deployment.

Server	Parameters
JBoss 7.1 (jboss7)	The <code>wdeploy deploy</code> command does not support JBoss 7.1. You must use the <code>wdeploy predeploy</code> or <code>wdeploy predeployall</code> commands of the WDeploy tool to create WAR files and deploy manually using the JBoss Command Line Interface (CLI) or the file system deployment scanner.
SAP Technology AS Java (sapappsvr73)	The <code>wdeploy deploy</code> command does not support SAP technology AS Java. You must use the <code>wdeploy predeploy</code> or <code>wdeploy predeployall</code> commands of the WDeploy tool to create SCA files and deploy manually using SAP Software Update Manager (SUM).
Tomcat 7.0 (tomcat7)	<pre>wdeploy.sh tomcat7 -Das_dir=/opt/tomcat7 -Das_instance=localhost -Das_service_name=Tomcat7 -DAPP=BOE deploy</pre>
Tomcat 8 or 8.5 (tomcat8)	<pre>wdeploy.sh tomcat8 -Das_dir=/opt/tomcat8 -Das_instance=localhost -Das_service_name=Tomcat8 -DAPP=BOE deploy</pre>
Tomcat 9 (tomcat9)	<pre>wdeploy.sh tomcat9 -Das_dir=/opt/tomcat9 -Das_instance=localhost -Das_service_name=Tomcat9 -DAPP=BOE deploy</pre>
WebLogic 11gR1 (weblogic11)	<pre>wdeploy.sh weblogic11 -Das_domain_dir=/bea/user_projects/domains/base_domain -Das_admin_port=7001 -Das_instance=AdminServer -Das_admin_username=weblogic -Das_admin_password=weblogic -DAPP=BOE deploy</pre>

Server	Parameters
WebSphere 7.0 (websphere7)	<pre>wdeploy.sh websphere7 -Das_dir=/opt/ibm/WebSphere/AppServer -Das_instance=server1 -Das_virtual_host=default_host -Das_profile_name=AppSrv01 -Das_soap_port=8880 -DAPP=BOE deploy</pre>
WebSphere 8.5 or 8.5.5 (websphere8)	<pre>wdeploy.sh websphere8 -Das_dir=/opt/ibm/WebSphere/AppServer -Das_instance=server1 -Das_virtual_host=default_host -Das_profile_name=AppSrv01 -Das_soap_port=8880 -DAPP=BOE deploy</pre>
WebSphere 9 (websphere9)	<pre>wdeploy.sh websphere9 -Das_dir=/opt/ibm/WebSphere/AppServer -Das_instance=server1 -Das_virtual_host=default_host -Das_profile_name=AppSrv01 -Das_soap_port=8880 -DAPP=BOE deploy</pre>

4.6.2.7 wdeploy deployall

The `wdeploy deployall` command performs the `wdeploy deploy` command for all web applications located in the BI platform web application source directory:

```
<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/warfiles/webapps
```

Example

For example, use `wdeploy deployall` to apply the `wdeploy deploy` command to all web applications.

```
wdeploy.sh <WEB_APP_SERVER> deployall
```

Substitute `<WEB_APP_SERVER>` for the name of the web application server, as shown in the following table.

The table below lists example parameters for deploying the all web applications to specific web application servers. All parameters are required, unless they are marked as optional in the configuration files. Parameters given on the command-line over-ride those stored in configuration files. However, it is recommended that you configure the parameters in the `config.<WEB_APP_SERVER>` configuration file appropriate for your deployment.

Server	Parameters
JBoss 7.1 (jboss7)	The <code>wdeploy deployall</code> command does not support JBoss 7.1. You must use the <code>wdeploy predeploy</code> or <code>wdeploy predeployall</code> commands of the WDeploy tool to create WAR files and deploy manually using the JBoss Command Line Interface (CLI) or the file system deployment scanner.
SAP Netweaver Technology Platform (sapappsvr73)	The <code>wdeploy deployall</code> command does not support SAP Netweaver technology platform. You must use the <code>wdeploy predeploy</code> or <code>wdeploy predeployall</code> commands of the WDeploy tool to create SCA files and deploy manually using SAP Software Update Manager (SUM).
Tomcat 7.0 (tomcat7)	<pre>wdeploy.sh tomcat7 -Das_dir=/opt/tomcat7 -Das_instance=localhost -Das_service_name=Tomcat7 deployall</pre>
Tomcat 8 or 8.5 (tomcat8)	<pre>wdeploy.sh tomcat8 -Das_dir=/opt/tomcat8 -Das_instance=localhost -Das_service_name=Tomcat8 deployall</pre>
Tomcat 9 (tomcat9)	<pre>wdeploy.sh tomcat9 -Das_dir=/opt/tomcat9 -Das_instance=localhost -Das_service_name=Tomcat9 deployall</pre>
WebLogic 11gR1 (weblogic11)	<pre>wdeploy.sh weblogic11 -Das_domain_dir=/opt/bea/user_projects/domains/ base_domain -Das_admin_port=7001 -Das_instance=AdminServer -Das_admin_username=weblogic -Das_admin_password=weblogic deployall</pre>
WebSphere 7.0 (websphere7)	<pre>wdeploy.sh websphere7 -Das_dir=/opt/ibm/WebSphere/AppServer -Das_instance=server1 -Das_virtual_host=default_host -Das_profile_name=AppSrv01 -Das_soap_port=8880 deployall</pre>
WebSphere 8.5 or 8.5.5 (websphere8)	<pre>wdeploy.sh websphere8 -Das_dir=/opt/ibm/WebSphere/AppServer -Das_instance=server1 -Das_virtual_host=default_host -Das_profile_name=AppSrv01 -Das_soap_port=8880 deployall</pre>

Server	Parameters
WebSphere 9 (websphere9)	<pre>wdeploy.sh websphere9 -Das_dir=/opt/ibm/WebSphere/AppServer -Das_instance=server1 -Das_virtual_host=default_host -Das_profile_name=AppSrv01 -Das_soap_port=8880 deployall</pre>

4.6.2.8 wdeploy undeploy

The `wdeploy undeploy` command invokes the target web application server's command-line interface to remove a deployed BI platform web application from the server.

Example

For example, use the `wdeploy undeploy` command to undeploy the BOE web application from the target web application server.

```
wdeploy.sh <WEB_APP_SERVER>
-DAPP=BOE
undeploy
```

Substitute `<WEB_APP_SERVER>` for the name of the web application server, as shown in the following table.

The table below lists example parameters for undeploying the BOE web application from specific web application servers. All parameters are required, unless they are marked as optional in the configuration files. Parameters given on the command-line over-ride those stored in configuration files. However, it is recommended that you configure the parameters in the `config.<WEB_APP_SERVER>` configuration file appropriate for your deployment.

Server	Parameters
JBoss 7.1 (jboss7)	The <code>wdeploy undeploy</code> command does not support JBoss 7.1.
SAP Netweaver Technology Platform (sapappsvr73)	The <code>wdeploy undeploy</code> command does not support SAP Netweaver technology platform.
Tomcat 7.0 (tomcat7)	<pre>wdeploy.sh tomcat7 -Das_dir=/opt/tomcat7 -Das_instance=localhost -DAPP=BOE -Das_service_name=Tomcat7 undeploy</pre>

Server	Parameters
Tomcat 8 or 8.5 (tomcat8)	<pre>wdeploy.sh tomcat8 -Das_dir=/opt/tomcat8 -Das_instance=localhost -DAPP=BOE -Das_service_name=Tomcat8 undeploy</pre>
Tomcat 9 (tomcat9)	<pre>wdeploy.sh tomcat9 -Das_dir=/opt/tomcat9 -Das_instance=localhost -DAPP=BOE -Das_service_name=Tomcat9 undeploy</pre>
WebLogic 11gR1 (weblogic11)	<pre>wdeploy.sh weblogic11 -Das_domain_dir=/opt/bea/user_projects/domains/ base_domain -Das_admin_port=7001 -Das_instance=AdminServer -Das_admin_username=weblogic -Das_admin_password=weblogic -DAPP=BOE undeploy</pre>
WebSphere 7.0 (websphere7)	<pre>wdeploy.sh websphere7 -Das_dir=/opt/ibm/WebSphere/AppServer -Das_instance=server1 -Das_virtual_host=default_host -Das_profile_name=AppSrv01 -Das_soap_port=8880 -DAPP=BOE undeploy</pre>
WebSphere 8.5 or 8.5.5 (websphere8)	<pre>wdeploy.sh websphere8 -Das_dir=/opt/ibm/WebSphere/AppServer -Das_instance=server1 -Das_virtual_host=default_host -Das_profile_name=AppSrv01 -Das_soap_port=8880 -DAPP=BOE undeploy</pre>
WebSphere 9 (websphere9)	<pre>wdeploy.sh websphere9 -Das_dir=/opt/ibm/WebSphere/AppServer -Das_instance=server1 -Das_virtual_host=default_host -Das_profile_name=AppSrv01 -Das_soap_port=8880 -DAPP=BOE undeploy</pre>

4.6.2.9 wdeploy undeployall

The `wdeploy undeployall` command performs the `wdeploy undeploy` command for all BI platform web applications deployed to the target web application server.

Example

```
wdeploy.sh <WEB_APP_SERVER> undeployall
```

Substitute `<WEB_APP_SERVER>` for the name of the web application server, as shown in the following table.

The table below lists example parameters for undeploying all web applications from specific web application servers. All parameters are required, unless they are marked as optional in the configuration files. Parameters given on the command-line over-ride those stored in configuration files. However, it is recommended that you configure the parameters in the `config.<WEB_APP_SERVER>` configuration file appropriate for your deployment.

Server	Parameters
JBoss 7.1 (jboss7)	The <code>wdeploy undeployall</code> command does not support JBoss 7.1.
SAP Technology (sapappsvr73)	The <code>wdeploy undeployall</code> command does not support SAP technology.
Tomcat 7.0 (tomcat7)	<pre>wdeploy.sh tomcat7 -Das_dir=/opt/tomcat7 -Das_instance=localhost -Das_service_name=Tomcat7 undeployall</pre>
Tomcat 8 or 8.5 (tomcat8)	<pre>wdeploy.sh tomcat8 -Das_dir=/opt/tomcat8 -Das_instance=localhost -Das_service_name=Tomcat8 undeployall</pre>
Tomcat 9 (tomcat9)	<pre>wdeploy.sh tomcat9 -Das_dir=/opt/tomcat9 -Das_instance=localhost -Das_service_name=Tomcat9 undeployall</pre>
WebLogic 11gR1 (weblogic11)	<pre>wdeploy.sh weblogic11 -Das_domain_dir=/opt/bea/user_projects/domains/ base_domain -Das_admin_port=7001 -Das_instance=AdminServer -Das_admin_username=weblogic -Das_admin_password=weblogic undeployall</pre>

Server	Parameters
WebSphere 7.0 (websphere7)	<pre>wdeploy.sh websphere7 -Das_dir=/opt/ibm/WebSphere/AppServer -Das_instance=server1 -Das_virtual_host=default_host -Das_profile_name=AppSrv01 -Das_soap_port=8880 undeployall</pre>
WebSphere 8.5 or 8.5.5 (websphere8)	<pre>wdeploy.sh websphere8 -Das_dir=/opt/ibm/WebSphere/AppServer -Das_instance=server1 -Das_virtual_host=default_host -Das_profile_name=AppSrv01 -Das_soap_port=8880 undeployall</pre>
WebSphere 9 (websphere9)	<pre>wdeploy.sh websphere9 -Das_dir=/opt/ibm/WebSphere/AppServer -Das_instance=server1 -Das_virtual_host=default_host -Das_profile_name=AppSrv01 -Das_soap_port=8880 undeployall</pre>

4.6.3 Special considerations

The following section contains important information related to the deployment of web applications on your web application server.

4.6.3.1 SAP NetWeaver Technology Platform

4.6.3.1.1 Prerequisites for deployment on the SAP NetWeaver Technology Platform

Note

If you have any existing SAP BusinessObjects Business Intelligence platform web applications running on the server, they must be undeployed before continuing.

Before deploying BI platform web applications to an SAP NetWeaver Application Server component (any version), you must ensure that .html and .htm files are never compressed. For example, in SAP NetWeaver AS component 7.3:

1. Logon to your SAP Administrator portal.
For example: `http://<servername>:50000/nwa`

2. Navigate to: ► [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, text/html from this property. This field cannot be blank - enter a space if blank.
 - [NeverCompressed](#): Add *.htm, *.html, text/html to this property.

Example

Name	Default Calculated Value
AlwaysCompressed	(set to empty space if blank)
NeverCompressed	*.htm, *.html, text/html

5. Save your changes before exiting.

4.6.3.2 Tomcat

4.6.3.2.1 To deploy to separate Apache web and Tomcat web application servers

To reduce the load on a web application server, you can set up a separate, dedicated, web server to serve static content. All static content will be served by the web server, while dynamic content will be served by the web application server. The following instructions show you how to use the WDeploy tool to split web application resources into static and dynamic content and deploy this content appropriately.

1. Set up the Apache web server and ensure that it is working correctly. Load a web page, such as Apache's default test page, to verify that the web server is serving content correctly.
Open a web browser and enter the web server URL. For example: `http://apache.mycompany.com`.
2. Ensure that your Tomcat web application server is working correctly.
Open a web browser and enter the IP address or hostname of the web application server, and a port number. For example: `http://tomcat.mycompany.com:8080`.

ⓘ Note

If you have any existing BI platform web applications running on the server, they must be undeployed before continuing.

3. Download the Apache Tomcat connector from the Tomcat web site. The Apache Tomcat connector allows you to connect an Apache web server with a Tomcat web application server, so Apache can forward requests for dynamic resources to Tomcat.
4. Follow the plug-in configuration instructions on the Apache web site for configuring the bridge between Apache web server and Tomcat web application server.
Requests for dynamic resources are now forwarded to Tomcat when received by Apache.
5. Ensure that the bridge between the web server and web application server is working by pointing a browser to the web server and verifying that dynamic content from the web application server is served correctly.
For example, visit the URL: `http://apache.mycompany.com/jsp-examples/`.

Note

This example URL will only work if you have manually deployed the `jsp-examples` web application.

6. If the web application server is installed on the same machine as the BI platform, run WDeploy locally on that machine. If the web application server runs on a different machine copy the WDeploy command and environment to the web application server. See *To deploy web applications on a remote machine*.
7. Configure WDeploy environment to separate content between the web server and the web application server. This is known as "split" mode.

The WDeploy configuration files for Apache and Tomcat are located in `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/conf`.

- Edit the WDeploy configuration file for Tomcat. For example, for Tomcat 8.5, the file `config.tomcat8` will look similar to this:

```
as_dir=/opt/Tomcat
as_instance=localhost
as_service_name=tomcat8
```

- Edit `config.apache`. For example:

```
ws_dir=/opt/apache224
connector_type=tomcat8
deployment_dir=/opt/apache224/htdocs
```

8. Use `wdeploy predeploy` in split mode to separate source web applications into static and dynamic files. For example:
 - Run the following command to extract static content for the Apache web server.

```
wdeploy.sh tomcat8 -Das_mode=split
-Dws_type=apache predeployall
```

9. Run `wdeploy deployonlyall` command to deploy the dynamic content to Tomcat application server and static content to Apache.

If Apache and Tomcat are on the same machine, static and dynamic content will be automatically deployed to servers by the following command:

```
wdeploy.sh tomcat8 -Das_mode=split
-Dws_type=apache deployonlyall
```

Note

If your dynamic and static content are in a custom location, use the `-Dwork_dir` parameter.

If Apache and Tomcat are on different machines, dynamic content will be automatically deployed to Tomcat by the following command. Static content must be manually deployed to the remote Apache machine afterwards.

```
wdeploy.sh tomcat8 -Das_mode=split
deployonlyall
```

Note

If your dynamic and static content are in a custom location, use the `-Dwork_dir` parameter.

Copy static content to the `htdocs` directory on the web server:

- Extract the zip files on the web application server under `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/workdir/tomcat8/resources`.
- Copy these folders from the Tomcat web application server to the Apache `<WS_DIR>/htdocs` folder on the Apache server.
- Copy the `bobj.<application>.conf` files from the Tomcat web application server to the Apache `<WS_DIR>/conf` folder on the Apache server.
- Update Apache `httpd.conf` under `<WS_DIR>/conf` with the application configuration files. For each web application include an entry in `httpd.conf`. For example, to include BOE, you would enter:

```
Include conf/bobj.BOE.conf
```

Static content is now served by a dedicated web server, and dynamic content is served by a dedicated web application server.

4.6.3.2.2 Tomcat gzip compression

If you install a new installation of the BI platform and choose to use the bundled Tomcat web application server, Tomcat's HTTP gzip compression is enabled automatically.

The gzip compression improves web application server response time and throughput. However, if you plan to deploy web applications to the Tomcat web application server, note that the deployment of web applications to a Tomcat server with gzip compression enabled may differ from the process used to deploy web applications to a version of Tomcat bundled with an earlier release of the BI platform.

4.6.3.3 WebLogic

4.6.3.3.1 To deploy to separate Apache web and WebLogic web application servers

To reduce the load on a web application server, you can set up a separate, dedicated, web server to serve static content. All static content will be served by the web server, while dynamic content will be served by the web application server. The following instructions show you how to use the WDeploy tool to split web application resources into static and dynamic content and deploy this content appropriately.

1. Set up the Apache web server and ensure that it is working correctly. Load a web page, such as Apache's default test page, to verify that the web server is serving content correctly.
Open a web browser and enter the IP address or hostname of the web server, and a port number if the server is not listening on port 80. For example: `http://apache.mycompany.com`.
2. Ensure that your WebLogic web application server is working correctly.
Open a web browser and enter the IP address or hostname of the web application server, and a port number. For example: `http://weblogic.mycompany.com:7001`.

Note

If you have any existing BI platform web applications running on the server, they must be undeployed before continuing.

3. Download the WebLogic Apache HTTP Server Plug-In from the BEA web site. The plug-in allows you to connect an Apache web server with a WebLogic web application server, so Apache can forward requests for dynamic resources to WebLogic.
4. Follow the plug-in configuration instructions on the BEA web site for configuring the bridge between Apache web server and WebLogic.
Requests for dynamic resources are now forwarded to WebLogic when received by Apache.
5. Ensure that the bridge between the web server and web application server is working by pointing a browser to the web server and verifying that dynamic content from the web application server is served correctly.
For example, visit the URL: `http://apache.mycompany.com/jsp-examples/`.

Note

This example URL will only work if you have manually deployed the `jsp-examples` web application.

6. If the web application server is installed on the same machine as the BI platform, run WDeploy locally on that machine. If the web application server runs on a different machine copy the WDeploy command and environment to the web application server. See *To deploy web applications on a remote machine*.
7. Configure the WDeploy environment to separate content between the web server and the web application server. This is known as "split" mode.

The WDeploy configuration files for Apache and WebLogic are located in `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/conf`.

- Edit `config.weblogic11`. For example:

```
as_admin_port=7001
as_admin_username=weblogic
as_admin_password=weblogic
as_instance=AdminServer
as_domain_dir=/usr/BEA/user_projects/domains/base_domain
```

- Edit `config.apache`. For example:

```
ws_dir=/opt/apweblogic11
ache224/
connector_type=weblogic11
deployment_dir=/opt/apache224/htdocs
```

8. Use `wdeploy predeploy` in split mode to split source web applications into separate static and dynamic resources.

For example:

- Run the following command to extract static content for the Apache web server and dynamic content for WebLogic application server.

```
wdeploy.sh weblogic11 -Das_mode=split
-Dws_type=apache predeployall
```

Dynamic content is located in: `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/workdir/weblogic11/application`. Static content is located in: `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/workdir/weblogic11/resources`.

9. Run `wdeploy deployonlyall` to deploy the dynamic content to WebLogic application server and static content to Apache.

If Apache and WebLogic are on the same machine, static and dynamic content will be automatically deployed to the servers with this command:

```
wdeploy.sh weblogic11 -Das_mode=split  
-Dws_type=apache deployonlyall
```

Note

If your dynamic and static content are in a custom location, use the `-Dwork_dir` parameter.

If Apache and WebLogic are on different machines, dynamic content will be automatically deployed to WebLogic by the following command. Static content must then be manually copied over and deployed to the remote Apache machine.

```
./wdeploy.sh weblogic11 -Das_mode=split  
deployonlyall
```

Note

If your dynamic and static content resides in a custom location, use the `-Dwork_dir` parameter.

Copy static content to the `htdocs` directory on the web server:

- Extract the zip files on the web application server under `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/workdir/WebLogic11/resources`.
- Copy these folders from the WebLogic web application server to the Apache `<WS_DIR>/htdocs` folder on the Apache server.
- Copy the `bobj.<application>.conf` files from the WebLogic web application server to the Apache `<WS_DIR>/conf` folder on the Apache server.
- Update Apache `httpd.conf` under `<WS_DIR>/conf` with the application configuration files. For each web application include an entry in `httpd.conf`. For example, to include BOE, you would enter:

```
Include conf/bobj.BOE.conf
```

Static content is now served by a dedicated web server, and dynamic content is served by a dedicated web application server.

4.6.3.4 WebSphere

4.6.3.4.1 To deploy to separate IHS web and WebSphere web application servers

To reduce the load on a web application server, you can set up a separate, dedicated, web server to serve static content. All static content will be served by the web server, while dynamic content will be served by the web application server. The following instructions show you how to use the WDeploy tool to split web application resources into static and dynamic content and deploy this content appropriately.

1. Set up an IBM HTTP Server (IHS) web server and ensure that it is working correctly. Load a web page, such as the IHS default test page, to verify that the web server is serving content correctly.

Open a web browser and enter the IP address or hostname of the web server, and a port number if the server is not listening on port 80. For example: `http://ihs.mycompany.com`.

2. Ensure that your WebSphere web application server is working correctly.

Open a web browser and enter the IP address or hostname of the web application server, and a port number. For example: `http://websphere.mycompany.com:9080`.

Note

If you have any existing BI platform web applications running on the server, they must be undeployed before continuing.

3. Run the web server plug-in installation wizard to install the plug-in that bridges WebSphere with IHS, and follow the directions to enter information about your IHS web server.

4. Follow the plug-in configuration instructions on the WebSphere web site for configuring the bridge between IHS and WebSphere.

Requests for dynamic resources are now forwarded to WebSphere when received by IHS.

5. Ensure that the bridge between the web server and web application server is working by pointing a browser to the web server and verifying that dynamic content from the web application server is served correctly.

For example, visit the URL: `http://ihs.mycompany.com/snoop/`.

6. If the web application server is installed on the same machine as the BI platform, run WDeploy locally on that machine. If the web application server runs on a different machine copy the WDeploy command and environment to the web application server. See *To deploy web applications on a remote machine*.

7. Configure WDeploy environment to separate content between the web server and the web application server. This is known as "split" mode.

The WDeploy configuration files for Apache and WebSphere are located in `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/conf`.

- Edit `config.apache`. For example:

```
ws_dir=C:\Program Files (x86)\IBM\HTTPServer
connector_type=websphere7
deployment_dir=${ws_dir}/htdocs
plugin_install_dir=C:\Program Files\IBM\HTTPServer\Plugins
```

- Edit `config.websphere7`. For example:

```
as_soap_port=8880
#as_admin_username=admin
#as_admin_password=password
as_dir=/opt/websphere/appserver
as_instance=server1
as_plugin_cfg_dir=/opt/ibm/WebSphere/AppSever/profiles/AppSrv01/config/
cells/<CELLNAME>/nodes/<NODENAME>/servers/${ws_instance}
as_profile_name=AppSrv01
as_virtual_host=default_host
as_admin_is_secure=false
enforce_file_limit=true
ws_instance=webserver1
```

8. Use `wdeploy predeploy` in split mode to split source web applications into separate static and dynamic resources.

Note

Before running `wdeploy predeploy`, ensure that parameter `as_plugin_cfg_dir` in `config.websphere<X>` has been set to the folder that contains the WebSphere file `plugin-cfg.xml`.

For example:

- Run the following command to extract static content for the IHS web server.

```
wdeploy.sh websphere7
-Das_mode=split
-Dws_type=apache
predeployall
```

The dynamic content of web applications is located in: `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/workdir/websphere7/application`. The static content is located in: `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/workdir/websphere7/resources`.

9. Run `wdeploy deployonlyall` command to deploy the dynamic content to WebSphere application server and static content to IHS.

If IHS and WebSphere are on the same machine, static and dynamic content will be automatically deployed to servers by the following command:

```
wdeploy.sh websphere7 -Das_mode=split
-Dws_type=apache deployonlyall
```

Note

If your dynamic and static content are in a custom location, use the `-Dwork_dir` parameter.

If IHS and WebSphere are on different machines, dynamic content will be automatically deployed to WebSphere by the following command. Static content must be manually deployed to the remote IHS machine afterwards.

```
./wdeploy.sh websphere7 -Das_mode=split
deployonlyall
```

Note

If your dynamic and static content are in a custom location, use the `-Dwork_dir` parameter.

Copy static content to the `htdocs` directory on the web server:

- Extract the zip files on the web application server under `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/workdir/websphere7/resources`.
- Copy these folders from the WebSphere web application server to the IHS `<WS_DIR>/htdocs` folder on the IHS server.
- Copy the `bobj.<application>.conf` files from the WebSphere web application server to the IHS `<WS_DIR>/conf` folder on the IHS server.
- Update IHS `httpd.conf` under `<WS_DIR>/conf` with the application configuration files. For each web application include an entry in `httpd.conf`. For example, to include BOE, you would enter:

```
Include conf/bobj.BOE.conf
```

10. Copy the `plugin-cfg.xml` file to the IHS and WebSphere work folders. If you are using the WebSphere administrative console to deploy, and IHS and WebSphere are installed on the same host system, skip to the next step. The WDeploy command will automatically copy `plugin-cfg.xml` when IHS and WebSphere are installed on the same host system.

For example, copy the following file:

```
<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/work_dir/websphere7/  
application/PluginSplit/plugin-cfg.xml
```

To the WebSphere work folder:

```
<WS_HOME>/AppServer/profiles/AppSrv01/config/cells/<CELL_NAME>/nodes/  
<NODE_NAME>/servers/<SERVER_NAME>
```

And to the IHS work folder:

```
<WS_DIR>/Plugins/config/<WEB_SERVER_NAME>
```

11. Ensure that both static and dynamic content are correctly configured by trying to access a web application through the web server. For example, create a URL that includes the address of the web server with the root context of a web application deployed to the web application server:
`http://ihs.mycompany.com/BOE/CMC/`. In this example, `ihs.mycompany.com` is the web server, and `/BOE/CMC/` is a deployed web application.

Static content is now served by a dedicated web server, and dynamic content is served by a dedicated web application server.

4.6.3.4.2 To load classes with application class loader first

You should set the class-loading behavior of your installed web applications to *Classes loaded with application class loader first (parent last)* using the WebSphere *Administrative console*. This ensures that common classes bundled with the BI platform web applications, such as the JavaServer Faces (JSF) library, are used rather than any implementations supplied by WebSphere.

Log in to the WebSphere *Integrated Solutions Console* with the Administrator account. You can run the WebSphere *Administrative console* program, or use a web browser to open `http://<WAS_HOSTNAME>:<PORT>/ibm/console` where `<WAS_HOSTNAME>` is the name of your WebSphere server, and `<PORT>` is the port number on which the server listens for login requests. The default port number is 9060.

1. Select **Applications > Application Type > WebSphere enterprise applications** in the menu.
The *Enterprise Applications* screen appears.
2. Choose the web application deployed by WDeploy from the list of administered resources.
The *Enterprise Applications* configuration screen appears.
3. Click *Manage Modules*.
The *Manage Modules* screen appears.
4. Select the web application module (in the *Module* column).
The *Manage Modules General Properties* screen appears.
5. Select *Classes loaded with application class loader first (parent last)* from the *Class loader order* property.
A confirmation message appears.
6. Click *Save directly to the master configuration*.
The web application configuration is saved and you are returned to the *Manage Modules* screen.

7. Click [OK](#).
A master configuration change confirmation message appears.
8. Click [Save directly to the master configuration](#).
The web application configuration is saved and you are returned to the [Enterprise Applications](#) screen.
9. Select the web application checkbox and click [Start](#).
A message appears to confirm that the web application started successfully.

When deploying more than one web application, repeat steps 2 to 9 for each web application.

4.6.3.5 WebSphere Liberty Server Deployment (Windows)

WebSphere Liberty Server

Create a Server Command:

```
server create <serverName>
```

The Server is created in the below location:

For **Windows**:

```
<WebSphere Liberty Server>\wlp\usr\servers\
```

Follow the steps mentioned below for configuring the liberty server:

1. Use WDeploy tool to generate ear files with respect to the WebSphere Liberty Server.
`wdeploy.bat websphereL21 predeployall`
2. Copy the above generated ear files to the WebSphere droppins folder.

Example

```
<WebSphere Liberty Install Location>\wlp\usr\servers\<as_instance>\dropins.
```

Start the instance:

To start an instance, go to:

```
<WebSphere Liberty Install Location>\wlp\bin
```

Command:

```
Server Start <as_Instance>
```

4.6.3.6 WebSphere Liberty Server Deployment (Linux)

WebSphere Liberty Server

Create a Server Command:

```
server create <serverName>
```

The Server is created in the below location:

```
<WebSphere Liberty Server>/wlp/usr/servers/
```

Follow the steps mentioned below for configuring the liberty server:

1. Use WDeploy tool to generate ear files with respect to the WebSphere Liberty Server.
`wdeploy.bat websphereL21 predeployall`
2. Copy the above generated ear files to WebSphere droppins folder.

Example

```
/<WebSphere Liberty Install Location>/wlp/usr/servers/<as_instance>/dropins.
```

Start the instance:

To start an instance, go to:

```
<WebSphere Liberty Install Location>/wlp/bin
```

Command:

```
Server Start <as_Instance>
```

4.6.4 Split web tier pre-deployment without access to a web application server

The WDeploy command can separate static and dynamic content for deployment to a web server and web application server. Access to a web application server's deployment folder is not required: the separated content can be copied from the server hosting WDeploy to the web and web application servers manually.

When WDeploy is installed on a dedicated web server, the `wdeploy predeploy` or `wdeploy predeployall` commands are used to create static content from web applications directly to the web server's content directory. Some parameters are mandatory for particular web or web application servers:

Web or web application server	Parameters required for predeployment
WebSphere Application Server	<code>as_virtual_host</code>
Apache and IBM IHS	<code>ws_dir, deployment_dir, connector_type</code>

4.6.5 To disable the CMC or BI launch pad web applications

The Central Management Console (CMC) and BI launch pad (previously InfoView) web applications are now included within the `BOE` archive (`BOE.war` or `BOE.ear`). To disable either the CMC or BI launch pad web application, so either or both cannot be accessed when the `BOE` archive is deployed to a web application server, use the `WDeploy` tool.

To disable the CMC web application, use the `-Ddisable_CmcApp=true` switch when deploying `BOE.war` to the web applications server. For example, the following command will deploy `BOE.war` to a Tomcat 8 web application server but disable the CMC:

```
wdeploy.sh tomcat8 -DAPP=BOE -Ddisable_CmcApp=true deploy
```

To disable the BI launch pad web application, included the `-Ddisable_InfoView=true` switch when deploying `BOE.war` to the web applications server. For example, the following command will deploy `BOE.war` to a Tomcat 8 web application server but disable BI launch pad:

```
wdeploy.sh tomcat8 -DAPP=BOE -Ddisable_InfoView=true deploy
```

4.6.6 Changes to installed languages

To add language support for web applications, you must re-install the BI platform and select the required language(s) during the installation process. Once the second installation is complete, any deployed web applications that require the new language(s) must be re-deployed to the web application server.

This is because the installation program does not redeploy web applications automatically. The web applications must be re-packaged and re-deployed to the web application server.

4.7 Using the WDeploy GUI tool

The `WDeploy` GUI tool is installed as a part of the BI platform and provides an alternative, graphical, method of running the `wdeploy deployall` or `wdeploy undeployall` commands.

Note

- We recommend using the `WDeploy` command-line tool rather than the `WDeploy` GUI tool. The command-line tool has more robust functionality.
- The `WDeploy` GUI tool cannot be used to predeploy web applications. Use the command-line tool to run the `wdeploy predeployall` command.

For information on WDeploy requirements, see:

- [WDeploy prerequisites \[page 17\]](#)
- [WDeploy GUI tool prerequisites \[page 71\]](#)

To perform other deployment operations, use the command-line version of WDeploy.

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

- Czech
- Simplified Chinese
- Traditional Chinese
- Danish
- Dutch
- English
- Finnish
- French
- German
- Hungarian
- Italian
- Japanese
- Korean
- Norwegian Bokmal
- Polish
- Portuguese
- Romanian
- Russian
- Slovak
- Spanish
- Swedish
- Thai
- Turkish

4.7.1 WDeploy GUI tool prerequisites

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

- Set the `PERL_HOME` environment variable.
If you do not already have Perl 5.8.9 installed, set `PERL_HOME` to `<BIP_INSTALL_DIR>/InstallData/setup.engine/perl`.
It is recommended that you use the version of Perl installed with the BI platform. To use your own version of Perl 5.8.9, ensure that the following modules are also installed:
 - `Text::CharWidth`

Gets the number of occupied columns of a string on terminal. For more information, see the `CharWidth.pm` article at <http://search.cpan.org>.

- `Text::WrapI18N`
Line wrapping module with support for multibyte, fullwidth, and combining characters and languages without whitespaces between words. For more information, see the `WrapI18N.pm` article at <http://search.cpan.org>.

4.7.2 Starting WDeploy GUI tool

The WDeploy GUI tool is located in the folder `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy`. The syntax of the WDeploy command (from the `wdeploy` directory) is:

```
./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.

4.7.3 WDeploy GUI tool window

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 installation program or WDeploy tool will be unaffected.

Select a supported web application server from the *Select Web Application Server Type* drop-down. When a web application server is selected, review the information in the *Web Application Server Information* section and the *Application Server Domain Root Directory* section to ensure that it is correct for your web application server.

For more advanced options, select *Options*.

Note

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

Web application archive (may be WAR or EAR)	Deployed automatically?
BOE	Yes
AdminTools	Yes
dswsbobje	Yes
BusinessProcessBI (deprecated)	Yes
clientapi	No
MobileOTA14	No
jsfplatform	No

Web application archive (may be WAR or EAR)	Deployed automatically?
OpenSearch	No

4.7.4 Web application updates made by WDeploy

Changes made to web application configuration by WDeploy

Server	Changes made
Apache web server	For each application, <code>\${ws_dir}/conf/bobj.\${APP}.conf</code> file is created, containing connector configuration, directory and servlet mapping information. File <code>\${ws_dir}/conf/httpd.conf</code> is modified to include that file.
Tomcat	Files added to the <code>classpath</code> are dropped in <code>\${as_dir}/shared/lib</code> <code>\${as_dir}/bin/bobjeEnv.\${APP}.[sh bat]</code> file is created, containing library path modifications, and java properties modifications to add the application's properties. <code>\${as_dir}/bin/catalina.[sh bat]</code> file is modified to include this file. On Windows, additional java properties are added to the Tomcat service startup parameters. Library path modifications must manually be made to the system-wide PATH environment variable. Restart Tomcat to take changes into account.
WebLogic	Files to add to the <code>classpath</code> are bundled in the application (added to <code>WEB-INF/lib</code>). <code>\${as_domain_dir}/bin/bobjeEnv.\${APP}.[sh cmd]</code> file is created, containing library path and java properties modifications. <code>\${as_domain_dir}/bin/startWebLogic.[sh cmd]</code> file is modified to include this file.
WebSphere	Files to add to the <code>classpath</code> are bundled in the application (added to <code>WEB-INF/lib</code>). Properties are added as JVM custom properties. Library path modifications are done modifying the environment of the JVM. Web Server plugin gets automatically regenerated.

4.7.5 WDeploy GUI tool options

The [Options](#) screen of the WDeploy GUI tool allows you to select custom folders to use for the deployment of web applications. This is equivalent to setting properties when using the WDeploy command-line. For more information on WDeploy parameters, see [WDeploy property parameters \[page 37\]](#).

- *WDeploy work directory* (equivalent to the `work_dir` parameter).
- *Web application source tree location* (equivalent to the `app_source_tree` parameter) or *Generic WAR files location* (equivalent to the `war_dir` parameter).
- *Web applications root context* (equivalent to the `root_context_path` parameter).

ⓘ Note

Non-English characters in paths are currently not accepted as valid by the WDeploy GUI tool.

4.7.6 Adding the password to the WDeploy GUI file

The WDeploy GUI tool saves your input in a file and uses that information to deploy the web applications. You must manually add your password to this file even if you entered it when running the GUI, because passwords are not automatically recorded for security reasons.

To add your web application server password to the WDeploy GUI file:

1. Open the file containing WDeploy information:

```
<BOE_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/conf/config.<WEB_APP_SERVER>
```

2. Locate the line containing the password information:

```
as_admin_password=
```

3. Replace the value for the password, if any, with your web application password.
4. Save the file and re-run the WDeploy GUI.

4.8 After deploying web applications

After deploying or undeploying web applications, restart the web application server.

To verify the web application server configuration, make sure that BI launch pad and the Central Management Console (CMC) can be launched in a web browser. For example:

- `http[s]://<WEB_APP_SERVER>:<PORT>/<BI_LAUNCHPAD_CONTEXT>`
- `http[s]://<WEB_APP_SERVER>:<PORT>/<CMC_CONTEXT>`

Replace `<WEB_APP_SERVER>` with the hostname or IP address of the web or web application server, and `<PORT>` with the port number used for either HTTP or HTTPS communication. The default root context used for BI launch pad is `/BOE/BI`; the default context used for the CMC is `/BOE/CMC`.

4.9 To deploy BOE and biprws for JBoss 6.x and JBoss 7.x

4.9.1 Prerequisites for deploying BOE and biprws applications for JBoss 6.x and JBoss 7.x

1. When deploying BOE, modify the `standalone.xml` file (for example, the path: `\JBOSS_HOME\standalone\configuration\Standalone.xml`) as shown below:

```
<system-properties>
<property name="jboss.as.management.blocking.timeout" value="6000"/>
</system-properties>
```

2. For successful deployment of BOE, add the `deployment-timeout` in `standalone.xml` as shown below:

Code Syntax

```
<subsystem xmlns="urn:jboss:domain:deployment-scanner:2.0">
<deployment-scanner path="deployments" relative-to="jboss-server-
base.dir" scan-interval="5000" runtime-failure-causes-rollback=
"${jboss.deployment.scanner.rollback.on.failure:false}" deployment-
timeout="2700"/>
```

Note

- The `deployment-timeout` is in seconds. The default timeout value is 60 seconds.
- Set 5000 seconds as a value for the `deployment-timeout` for better performance.

3. For biprws and BOE deployment, access `standalone.conf.bat` file (for example the file location: `C:\JBOSS_HOME\bin`) and modify the code for the respective version of JBoss application server as mentioned below:

```
set "JBOSS_HOME = C:\JBOSS_HOME\"
set "JAVA_OPTS=%JAVA_OPTS% -Djava.net.preferIPv4Stack=true -Xbootclasspath/
a:%JBOSS_HOME%\jboss-modules.jar"
```

4.9.2 BOE and biprws deployment

1. Install and start the JBoss application server.
2. Generate war files for BOE and biprws applications via the Wdeploy tool.

To create biprws and BOE war files, go to `<INSTALLDIR>\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\wdeploy` and run the commands below:

```
wdeploy jboss<version> predeploy -DAPP=biprws
wdeploy jboss<version> predeploy -DAPP=BOE
```

where `<version>` is the corresponding version of JBoss application server.

Application war files are generated in the folder location `<INSTALLDIR>\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\wdeploy\workdir\jboss<version>\application`

3. Move the `biprws.war` and `BOE.war` files to `\JBOSS_HOME\standalone\deployments`.

The BOE and biprws applications is deployed for the JBoss web application server.

4.9.3 dswsbobje Deployment on JBoss Application Server

You have to follow the steps below to deploy dswsbobje on JBoss application server.

As of 4.3 SP2, `sapjce.jar` replaces `certjFIPS.jar`, `cryptojFIPS.jar`, `ssljFIPS.jar`, `jcmFIPS.jar` and `cryptojce.jar`. Some scenarios require additional DLLs and configurations (`sapcrypto.dll`, `slcryptokernel.dll` and `slcryptokernel.dll.sha256`). Refer to SAP Note [3153615](#) on how to configure SAP JCE for different scenarios.

4.10 Log files

The WDeploy tool creates two log files with detailed information that may be useful for diagnosing problems or monitoring activity.

1. `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/logs/WDeploy_summary.log`: a high-level record of WDeploy activity that includes information on the version of WDeploy, the JDK being used, the command issued, configuration, WAR file location, actions or events and their outcomes, and any error messages or warnings displayed to the user at runtime.
2. `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/logs/WDeploy.log`: includes everything in `WDeploy_summary.log`, but also includes timestamps and any warning or error messages.

When a WDeploy command is issued, `WDeploy_summary.log.01` is overwritten with the current command, and `WDeploy.log` is appended.

As the `WDeploy.log` file grows to more than 512 KB, the file is renamed with a unique numbered suffix. For example, `WDeploy.log` will be renamed to `WDeploy.log.01`. If a file named `WDeploy.log.01` already exists, `WDeploy.log.02` will be created.

5 To deploy web applications with the administrative console

5.1 To manually deploy web applications

The WDeploy tool must be used to generate deployable WAR or EAR files before they can be deployed to your web application server.

The following steps will deploy a web application using the application server's administrative console.

1. Run the `wdeploy predeploy` command to prepare a single web application, or `wdeploy predeployall` to prepare all web applications.

Example 1: using `wdeploy predeploy` to prepare the BOE.war web application WAR file for deployment to Tomcat.

```
wdeploy.sh tomcat8
-Das_dir=/opt/usr/tomcat
-Das_instance=localhost
-Das_service_name=Tomcat8
-DAPP=BOE
predeploy
```

Example 2: using `wdeploy predeployall` to prepare all web applications for deployment to Tomcat.

```
wdeploy.sh tomcat8
-Das_dir=/opt/usr/tomcat
-Das_instance=localhost
-Das_service_name=Tomcat8
predeployall
```

ⓘ Note

The `predeploy` and `predeployall` commands can be used on machines that do not host a web application server, as long as the parameters required by the `predeploy` or `predeployall` commands are given.

The WDeploy command will prepare web applications for deployment on a web application server, and creates WAR or EAR files in `BIP_INSTALL_DIR/sap_bobj/enterprise_xi40/wdeploy/workdir/<APP_SERVER>/application` unless you provide the `-Dwork_dir` parameter.

2. Follow the manual deployment procedure specific to your web application server.

Your web application can now be manually deployed on your web application server.

Repeat these steps for any other web applications that need to be installed.

5.1.1 JBoss EAP 6.4.0 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). Use the `wdeploy predeploy` command to create WAR files such as `BOE.war` or `AdminTools.war` that can be deployed manually to JBoss:

```
wdeploy.sh jboss6 predeployall
```

The `wdeploy predeploy` command creates an exploded WAR file structure for the Web Services web applications (folders named `dswsbobje.war` and `BusinessProcessBI.war`). For example:

```
jboss6
  application
    dswsbobje.war
      axis2-web
      images
      META-INF
      WEB-INF
```

Once the WAR files are created, copy them to a new location before deploying to JBoss using the JBoss Command Line Interface (CLI).

1. From the JBoss `bin` directory, run the command `jboss-cli` to start the JBoss CLI and press enter.
2. Run the command `connect` to connect to application server and press enter.
3. Run the `/deployment` command on the compressed WAR file or exploded WAR folder.

- For compressed `.war` files, such as `BOE.war`:
Standalone server:
`deploy BOE.war`
- For exploded `.war` file structures, such as `dswsbobje.war`:
Standalone server:
`cd subsystem=deployment-scanner/scanner=default`
`:write-attribute(name=auto-deploy-exploded,value=true)`

A message indicating successful deployment is displayed after completion: `{ "outcome" => "success" }`

Log onto the JBoss [Administration Console](#) web interface with the Administrator account at `http://<WAS_HOSTNAME>:<WAS_PORT>/console` to confirm that your application is running.

5.1.2 JBoss EAP 7.0 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). Use the `wdeploy predeploy` command to create WAR files such as `BOE.war` or `AdminTools.war` that can be deployed manually to JBoss:

```
wdeploy.sh jboss7 -DAPP=BOE predeploy
```

The `wdeploy` `predeploy` command creates an exploded WAR file structure for the Web Services web applications (folders named `dswsbobje.war` and `BusinessProcessBI.war`). For example:

```
jboss7
  application
    dswsbobje.war
      axis2-web
      images
      META-INF
      WEB-INF
```

Once the WAR files are created, copy them to a new location before deploying to JBoss using the JBoss Command Line Interface (CLI).

When deploying the AdminTools, `dswsbobje`, or `BusinessProcessBI` web applications to JBoss 7.1, we recommend you to refer [Security exception when deploying AdminTools, dswsbobje, or BusinessProcessBI to JBoss 7.1 \[page 94\]](#)

1. From the JBoss `bin` directory, run the command `jboss-cli --connect` to start the JBoss CLI and connect to the application server.
2. 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 `/BIPwebapps/` and the server group is named `main-server-group`.

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

Standalone server:

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

Managed domain:

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

- For exploded `.war` file structures, such as `dswsbobje.war` set the `archive` value to `false`:

Standalone server:

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

Managed domain:

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

A message indicating successful deployment is displayed after completion: `{"outcome" => "success" }`

Log onto the JBoss [Administration Console](#) web interface with the Administrator account at `http://<WAS_HOSTNAME>:9990/console` to confirm that your application is running.

5.1.3 SAP NetWeaver Technology Platform

5.1.3.1 Prerequisites for deployment on the SAP NetWeaver Technology Platform

ⓘ Note

If you have any existing SAP BusinessObjects Business Intelligence platform web applications running on the server, they must be undeployed before continuing.

Before deploying BI platform web applications to an SAP NetWeaver Application Server component (any version), you must ensure that .html and .htm files are never compressed. For example, in SAP NetWeaver AS component 7.3:

1. Logon to your SAP Administrator portal.
For example: `http://<servername>:50000/nwa`
2. Navigate to: ► [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, text/html from this property. This field cannot be blank - enter a space if blank.
 - [NeverCompressed](#): Add *.htm, *.html, text/html to this property.

Example

Name	Default Calculated Value
AlwaysCompressed	(set to empty space if blank)
NeverCompressed	*.htm, *.html, text/html

5. Save your changes before exiting.

5.1.3.2 Configuration required before deploying SAP BusinessObjects Explorer to SAP NetWeaver Technology Platform

Before deploying the BI platform web application (explorer) to SAP NetWeaver Technology Platform, you must set the `disable.compression.filter` property to `true` in the `/WEB-INF/classes/default.settings.properties` file. By default this value is set to `false`. Modify `default.settings.properties` from the following location:

- `<BIP_INSTALL_DIR>/sap_bobj/warfiles/webapps/explorer/WEB-INF/classes/`

ⓘ Note

The WDeploy tool does not support deployment to or undeployment from SAP NetWeaver Technology Platform. You must use the `predeploy` or `predeployall` commands of the WDeploy tool to create

SCA files and deploy manually using SAP Software Update Manager (SUM). For detailed instructions on how to perform a manual deployment to SAP NetWeaver Technology Platform, see [SAP NetWeaver Technology Platform Deployment with SAP Software Update Manager \(SUM\) \[page 81\]](#).

5.1.3.3 SAP NetWeaver Technology Platform Deployment with SAP Software Update Manager (SUM)

Make sure that the web application server is installed, configured, and running. Use the `wdeploy` `predeployall` command to create SCA packages that can be deployed manually to SAP NetWeaver technology platform.

```
wdeploy.sh sapappsvr73 predeployall
```

Note

You can also create an individual .sca package using WDeploy tool. For example, to create BOE.sca file, run `wdeploy.sh sapappsvr73 -DAPP=BOE predeploy`.

You need the SAP Software Update Manager (SUM) to deploy web applications to SAP NetWeaver technology platform. Download SUM from the following location:

<https://support.sap.com/swdc> > *Support Packages and Patches* > *A – Z Index* > *S>SL Toolset* <release> > *Entry by Component* > *Software Update Manager (SUM)*.

Install SUM on the same system that hosts SAP NetWeaver technology platform, with network access to the SCA packages to be deployed.

1. Unpack the Software Update Manager package with the following command:

```
SAPCAR - xvf <download directory>\<path>\<Archive>.SAR -R  
<SAPNW_INSTALL_DRIVE>:\usr\sap\<sapsid>
```

Extracting the above files creates a **SUM** folder under the path specified by you.

Note

SAPSID is the System ID which you specify when installing NetWeaver.

SAPSID: Every R/3 installation (SAP system) of a database server and several app servers running the application logic is uniquely identified by a single SID (SAP System Identification), SAPSID — a three-character code such as C11, PRD, E56, etc.)

2. Run the following `predeployall` command to generate all the SCA files, such as BOE.sca and AdminTools.sca:

```
wdeploy.sh sapappsvr73 predeployall
```

The resulting BI platform web applications are located in:

```
<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/workdir/sapappsvr73/  
application
```

3. Start the SAP NetWeaver application server component and perform the following:

1. Execute the command `startsap ALL`.
4. Start the Software Update Manager server process with the following command `STARTUP confighostagent <SAPSID>`

You need to start the Software Update Manager server process as a root user from the directory where you installed the Software Update Manager server.

❖ Example

Start the Software Update Manager server process with the following command `STARTUP confighostagent <SAPSID>` from the location `/usr/sap/<sid>/SUM`.

You can find the batch files in the driver where you extracted the SAR.files to the SUM folder.

5. Start the GUI of SUM from a browser at `http://<host>:1128/lms1/sumjava/<SAPSID>/index.html`
6. In the *Define Target* step, choose the *Manually prepared directory* option, and enter the *Stack file or Directory* path in the text box manually, and select *Next*.
7. Follow the update procedure until the deployment is complete and a confirmation tab is displayed.

ⓘ Note

For details, see the latest `ProcessOverview.html` report, stored in `<SAPNW_INSTALL_DRIVE>:\usr\sap\<sapsid>\SUM\sdt\htdoc`.

For more information on the Software Update Manager, see the user guides and other documentation at <http://help.sap.com>.

ⓘ Note

If you encounter an HTTP or session error when accessing a successfully deployed application (such as the CMC), wait a few minutes and then try refreshing the page.

5.1.3.3.1 Alternative: SAP NetWeaver Technology Platform Deployment Using the Command Prompt

Downloading the SUM tool involves some resources and knowledge about the tool. Here is an alternative approach for deploying all your applications on the NetWeaver technology platform in a quicker way:

1. At the command prompt, go to: `<netweaver install path>/<sid>/<client>/j2ee/console` and run `textconsole.sh`
2. Deploy the Web application using the following command: `deploy <path to sca file> version_rule=all`
For example, `deploy /webapps/BOE.sca version_rule=all`
Repeat this step for all .sca files.
3. Type 'exit' to exit from the text console.

5.1.4 WebLogic 11gR1 administrative console manual deployment

Before deploying, ensure that the web application server is installed, configured, and running. Create a WebLogic domain in which to run BI platform web applications.

Use the `wdeploy` `predeploy` command to create WAR files such as `BOE.war` and `AdminTools.war` that can be deployed manually to WebLogic:

```
wdeploy.sh weblogic11 -DAPP=BOE predeploy
```

Note


The `wdeploy` `predeploy` command creates an unpackaged folder structure for the Web Services web applications (dswsbobje and BusinessProcessBI) rather than a WAR file. For example:

```
weblogic11
  application
    dswsbobje
      dswsbobje
        axis2-web
          images
            META-INF
            WEB-INF
            lib
            META-INF
Resources
```

You must select the second, inner `dswsbobje` or `BusinessProcessBI` folder when deploying to WebLogic.

1. Log onto the [WebLogic Server Administrative Console](#) with a web browser at `http://<WAS_HOSTNAME>:<PORT>/console`.
The default port number is 7001.
The [WebLogic Server Administration Console](#) web page is displayed.
2. (Optional) On the [Change Center](#) panel, click [Lock & Edit](#).
This step is only required if your domain configuration is locked, such as in a production environment.
3. On the [Domain Structure](#) panel, click [Deployments](#).
4. On the [Summary of Deployments](#) page, click [Install](#) and on the [Install Application Assistant](#) page navigate to the WAR file or folder path:

Option	Description
WAR file (such as BOE.war)	Select the path to the WAR file. For example: <code><BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/workdir/weblogic11/application/BOE.war</code>
Folder structure (such as dswsbobje)	Select the path to the folder structure. For example: <code><BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/workdir/weblogic11/application/dswsbobje/dswsbobje</code>

Option	Description
	<div>  Note You must select the second, inner <code>dswsbobje</code> or <code>BusinessProcessBI</code> folder when deploying to WebLogic. </div>

Click [Next](#).

5. Select [Install this deployment as an application](#) and click [Next](#). After reviewing and providing any additional parameters in the wizard, click [Finish](#).
6. (Optional) On the [Change Center](#) panel, click [Activate Changes](#) to apply the changes to the web application server.

This step is only required if your domain configuration is locked, such as in a production environment.

Open the web application in a web browser to confirm that it now runs.

5.1.5 WebSphere 8.5 administrative console manual deployment

5.1.5.1 WebSphere 8.5 administrative console manual deployment - Graphical User Interface Method

Ensure that the web application server is installed, configured, and running. Use the `wdeploy predeploy` command to create EAR files such as `BOE.ear` and `AdminTools.ear` that can be deployed manually to WebSphere:

```
wdeploy.sh websphere8 -DAPP=BOE predeploy
```

If you are deploying the `BOE` application, or all web applications, increase the time-out setting to avoid a time-out message and deployment failure (see [To change the WebSphere 8.5 deployment time-out setting \[page 86\]](#)).

1. Log onto the WebSphere [Integrated Solutions Console](#) with the Administrator account at `http://<WAS_HOSTNAME>:<PORT>/ibm/console`.
The default secured port number is 9443.
2. Select **Applications > Application Types > WebSphere enterprise applications** in the menu.
The [Enterprise Applications](#) screen appears.
3. Click [Install](#).
The [Preparing for the application installation](#) screen [Path to the new application](#) appears.
4. Click [Browse](#) and choose the web application's EAR file.
The fully-qualified path to the web application's EAR file appears in the [Full Path](#) field.
5. Proceed to the next screen.
The [How do you want to install the application?](#) screen appears.
6. Accept the default option of [Fast Path](#) and proceed to the next screen.
The [Install New Application](#) screen [Step 1: Select installation options](#) appears.

7. Accept the default options and proceed to the next screen.
The [Step 2: Map modules to servers](#) screen appears.
8. Select the modules you want to deploy and proceed to the next screen.
The [Step 3: Summary](#) screen appears.
9. Review the summary and click [Finish](#).
The web application is installed and a master configuration change confirmation message appears.
10. Click [Save directly to the master configuration](#).
The web application configuration is saved and you are returned to the [Enterprise Applications](#) screen.
Notice that the web application is not yet running.
11. Choose the web application from the list of deployed applications (administered resources).
The [Configuration](#) screen appears.
12. Click [Manage Modules](#).
The [Manage Modules](#) screen appears.
13. Select the web application module (in the [Module](#) column).
The [Manage Modules General Properties](#) screen appears.
14. Select [Classes loaded with local class loader first \(parent last\)](#) from the [Class loader order](#) property.
A confirmation message appears.
15. Click [Save directly to the master configuration](#).
The web application configuration is saved and you are returned to the [Manage Modules](#) screen.
16. Click [OK](#).
A master configuration change confirmation message appears.
17. Click [Class loading and update detection](#).
The [Class loader](#) configuration screen appears.
18. Enter a desired polling interval in the [Polling interval for updated files](#) box and click [OK](#).
A master configuration change confirmation message appears.
19. Click [Save directly to the master configuration](#).
The web application configuration is saved and you are returned to the [Enterprise Applications](#) screen.
20. Select the web application checkbox and click [Start](#).
A message appears to confirm that the web application started successfully.

The web application has been deployed, configured, and started. Test the web application by using the root context you provided above. Repeat these steps for each web application.

5.1.5.2 WebSphere 8.5 administrative console manual deployment - Command Line Interface Method

Deploy the of EAR files that are one GB or more in size, using WebSphere administrative console manual deployment - Command Line Interface method

Ensure that the web application server is installed, configured, and running. Use the `wdeploy` `predeploy` command to create EAR files such as `BOE.ear` and `AdminTools.ear` that can be deployed manually to WebSphere:

```
wdeploy.sh websphere8 -DAPP=BOE predeploy
```

If you are deploying the BOE application, or all web applications, increase the time-out setting to avoid a time-out message and deployment failure (see [To change the WebSphere 8.5 deployment time-out setting \[page 86\]](#)).

1. From the WebSphere `bin` directory, run the `wsadmin.bat -lang jcl` command to start the WebSphere Command Line Interface and press enter.
2. Run the `$AdminApp install <Location of BOE.ear>/BOE.ear` command on the EAR file.
3. Once the deployment is completed, run the `$AdminConfig save` to save the deployment.

The web application has been deployed, configured, and started.

Log onto the WebSphere [Administration Console](#) web interface with the Administrator account at `http://<WAS_HOSTNAME>:<WAS_PORT>/console` to confirm that your application is running.

5.1.5.3 To change the WebSphere 8.5 deployment time-out setting

The deployment of the BI platform web applications to a WebSphere 8.5 or 8.5.5 web application server may take some time.

If you receive a time-out message while deploying web applications to a WebSphere 8.5, or 8.5.5, increase the deployment time-out setting.

1. Use a text editor to edit the configuration file `deployment.xml`. The location of `deployment.xml` will vary depending on how your server was installed and configured.

The `deployment.xml` configuration file is typically located in `<DEPLOYMENT_CELL>/applications/isclite.ear/deployments/isclite/deployment.xml`.

Substitute `<DEPLOYMENT_CELL>` with the name of the deployment server cell name.

For example, if the cell is named `NetworkDeploymentCell01`, the full path to `deployment.xml` could be `/opt/ibm/WebSphere/AppServer/profiles/Dmgr01/config/cells/NetworkDeploymentCell01/applications/isclite.ear/deployments/isclite/deployment.xml`.

2. Set the attribute `invalidationTimeout` to the desired value, in minutes, where the maximum value is `-1` (do not time out).
3. Save `deployment.xml`.
4. Restart the WebSphere service.

The WebSphere time-out setting has been changed.

5.1.5.4 To deploy to a WebSphere cluster

To manually deploy the BI platform web applications to a WebSphere web application cluster distributed over multiple machines, you need to deploy the web applications to the machine hosting the WebSphere Deployment Manager. Once all the required web applications have been installed, you can use the WebSphere Integrated Solutions Console to separately deploy these applications to the cluster.

→ Tip

It is recommended that you install and configure a hardware or software load balancer if running BI platform web applications on a WebSphere web application cluster. To configure the load balancer and cluster setup, consult your WebSphere documentation.

To deploy your web applications to a WebSphere cluster, use the following general workflow:

1. If the BI platform is installed to the same machine hosting the WebSphere Deployment Manager, skip to step 3. If the BI platform and the WebSphere Deployment Manager runs on different machines first copy the WDeploy tool and environment to the machine hosting the WebSphere administration server.
2. Modify the `config.websphere<X>` file located in `<BIP_INSTALL_DIR>\SAP BusinessObjects Enterprise XI 4.0\wdeploy\conf`.

You need to provide information for the administration server. For example:

```
as_dir=C:\Program Files\IBM\WebSphere\AppServer
as_soap_port=8880
as_virtual_host=default_host
as_admin_is_secure=false
enforce_file_limit=true
```

3. Open a command-line console and run the following command:

```
wdeploy.sh websphere7 predeployall
```

Note

Use `websphere8` for WebSphere 8.5 or 8.5.5.

4. Open the WebSphere Integrated Solutions Console.
5. Go to ► [Applications](#) ► [Enterprise Applications](#) ► to separately install each web application to deploy from the following directory: `<BIP_INSTALL_DIR>\SAP BusinessObjects Enterprise XI 4.0\wdeploy\workdir\websphere<X>\application\`

Note

All web applications are stored as EAR modules.

6. Follow the Install new application steps in the console to install the web application

Note

In [Map modules to servers](#), make sure that you highlight the target cluster and select the module to install before clicking Apply.

7. After installing the application, click [Save](#).
8. Repeat steps 5 to 7 for each EAR file to install.
9. Go to ► [System administration](#) ► [Nodes](#) ► and select the nodes in the cluster that are not indicated as synchronized
10. Click [Synchronize](#).
11. For each application server in the cluster, go to ► [Servers](#) ► [Application servers](#) ► `<app_server_name>` ► [Session management](#) ► [Distributed environment settings](#) ► [Tuning parameters](#) ► [Custom tuning parameters](#) ► and select [All session attributes](#) from the [Write contents](#) property.

The *Write contents* property must be set to *All session attributes* to ensure proper fail-over of your web application. If you are not using custom settings, ensure that you are using a suitable tuning level for your deployment, such as *High* or *Low*, that sets this property to *All session attributes*.

12. Go to ► [Applications](#) ► [Enterprise Applications](#) ► to start the application just installed.

5.2 Deploy RESTful Web Services on SAP NetWeaver Application Server

You can follow the steps below to deploy RESTful web services on supported versions of SAP NetWeaver application server.

Note

You can deploy RESTful web services only on SAP NetWeaver v7.5 and later.

1. Complete the prerequisite tasks for deployment on SAP NetWeaver application server. See the topic [Prerequisites for deployment on the SAP NetWeaver Technology Platform \[page 59\]](#) for more information.
2. Create a package with .sca extension using WDeploy tool. See [Create biprws.sca Package \[page 88\]](#) for more information.
3. In CMC home page, go to ► [Applications](#) ► [RESTful Web Services](#) ► [Properties](#) ► and add the RESTful web services link that is used to access SAP NetWeaver application server. See the topic *To configure the base URL for RESTful web services in Business Intelligence Platform Administrator Guide* for more information.

5.2.1 Create biprws.sca Package

Make sure that the web application server is installed, configured, and running. Use the `wdeploy predeploy` command to create `biprws.sca` package that can be deployed manually to SAP NetWeaver technology platform.

```
wdeploy.sh sapappsvr73 -DAPP=biprws predeploy
```

You need the SAP Software Update Manager (SUM) to deploy web applications to SAP NetWeaver technology platform. For more information, refer to [SAP NetWeaver Technology Platform Deployment with SAP Software Update Manager \(SUM\) \[page 81\]](#).

5.3 Tomcat 7, 8, 8.5, and 9 administrative console manual deployment

Ensure that the web application server is installed, configured, and running. Use the `wdeploy predeploy` command to create WAR files such as `BOE.war` and `AdminTools.war` that can be deployed manually to Tomcat:

```
wdeploy.sh tomcat8 -DAPP=BOE predeploy
```

1. Log onto the [Tomcat Manager](#) administrative console application at `http://<WAS_HOSTNAME>:<PORT>/manager/html`.

The default port number is 8080.

2. Set the [Context Path](#) for the web application to be deployed.

The context path must be the name of the WAR file, but without its extension and prefaced by a forward-slash. For example, to deploy a web application packaged as `<YOUR_WEB_APPLICATION>.war`, the context path must be `/<YOUR_WEB_APPLICATION>`.

3. Set the [XML Configuration File](#) setting the location of an XML file that contains the context path and document base.

The document base is the predeployed WAR file you created with the `wdeploy predeploy` command. For example:

```
<Context
  docBase="<BOE_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/workdir/tomcat8/
  application/<YOUR_WEB_APPLICATION>.war"
  path="<context_path>"
  crossContext="false" debug="0" reloadable="false" trusted="false"
/>
```

4. Enter the full path to the WAR file and press [Deploy](#).

The WAR file is deployed.

5.3.1 To deploy to a Tomcat cluster

To manually deploy web applications to a Tomcat web application cluster distributed over multiple machines, deploy the web applications to each Tomcat web application server. Use the administrative console to deploy web applications to the `webapps` subfolder in the Tomcat home directory for each server instance.

📌 Note

When using Tomcat, stop the web application server before issuing the `wdeploy undeployall` action command.

→ Tip

It is recommended that you install and configure a hardware or software load balancer if running BI platform web applications on a Tomcat web application cluster. Consult the Tomcat documentation for information on setting up load balancing on a Tomcat cluster.

5.3.2 Alternative: SAP NetWeaver Technology Platform Deployment Using the Command Prompt

Downloading the SUM tool involves some resources and knowledge about the tool. Here is an alternative approach for deploying all your applications on the NetWeaver technology platform in a quicker way:

1. At the command prompt, go to: `<netweaver install path>/<sid>/<client>/j2ee/console` and run `textconsole.sh`
2. Deploy the Web application using the following command: `deploy <path to sca file> version_rule=all`
For example, `deploy /webapps/BOE.sca version_rule=all`
Repeat this step for all .sca files.
3. Type 'exit' to exit from the text console.

6 Known issues and work-arounds

6.1 Windows line endings in wdeploy.sh script

The `wdeploy.sh` script may contain Windows DOS line endings when copied from a Windows machine to a Unix or Linux system.

To resolve this problem, use a text editor or a utility like `dos2unix` to convert `wdeploy.sh` from Windows DOS line endings (carriage return, line break) to Unix line endings (carriage return).

6.2 Renaming BOE web application or web application source tree

When the BI platform web application source tree in folder is renamed, it may not be properly deployed by the WDeploy tool. This occurs on all supported platforms. The source tree folder is located in:

`<BIP_INSTALL_DIR>/enterprise_xi40/warfiles/webapps`

To work around this issue, follow these steps:

1. Locate the BOE web application configuration file, `BOE.properties` in
`<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/conf/apps`
2. Rename `BOE.properties` so that it reflects the new name for the web application WAR file.
For example, if you want to rename the web application from BOE to MYBOE, and you have already renamed `BOE.war` to `MYBOE.war`, rename `BOE.properties` to `MYBOE.properties`.
3. Use a text editor to update the contents of the newly named `.properties` file. Update the web application information in the configuration file.

```
#Business Objects Configuration Utility
#BOE specific properties
warfile=<WEB_APP_NAME>.war
appvdir=<WEB_APP_NAME>
buildfile=<WEB_APP_NAME>.xml
osgisupported=true
```

For example, if you want to rename the web application from BOE to MYBOE, replace `<WEB_APP_NAME>` above with `MYBOE`.

4. Rename `BOE.xml` so it reflects the new name for the web application WAR file.
For example, if you want to rename the web application from BOE to MYBOE, and you have already renamed `BOE.war` or `BOE.ear` to `MYBOE.war` or `MYBOE.ear`, rename `BOE.xml` to `MYBOE.xml`.

The WDeploy tool can now deploy the newly-named web application to the web application server.

6.3 Using WDeploy in a pure IPv6 environment

Using the `wdeploy` command in a pure IPv6 environment with the Oracle Java Development Kit (JDK), the Oracle JDK may not allow the web application server to bind with an IPv6 address, causing `wdeploy` commands to fail.

This is because the Oracle JDK defaults to use IPv4 addresses. Change the Oracle JDK settings so that Java uses IPv6 addresses by setting the `JAVA_OPTIONS` variable in your environment or start-up script:

```
JAVA_OPTIONS="-Djava.net.preferIPv6Addresses=true"
```

For example, on a WebLogic web application server, add `JAVA_OPTIONS="-Djava.net.preferIPv6Addresses=true"` to the `setDomainEnv.sh` or `setDomainEnv.cmd` scripts.

Restart your web application server, and verify connectivity with the `::1` or `localhost` alias in the `hosts` file.

6.4 Web Services on split web tier servers

The Web Services web application (`dswsbobje.war`) is not supported on split web tier deployments. Split web tier deployments have separate web and web application servers. WDeploy will process the Web Services web application as a standalone web application even in a split web tier deployment.

6.5 WDeploy with non-English languages

When using a non-English language in the WDeploy tool:

- The WDeploy GUI tool does not support non-English characters in the server admin username or password parameters in the `config.<WEB_APP_SERVER>` configuration file.
- On Windows, the WDeploy GUI and command-line tools may fail and throw an exception when passing in non-English file paths with UTF-8 characters. The log file indicates that the path consists of invalid characters and cannot be found.

6.6 Web application not removed from server

If a web application was not removed with the WDeploy `undeploy` or `undeployall` commands, use the administrative console to stop all web applications and restart the server, then re-run the `undeploy` or `undeployall` command.

6.7 Launching WDeploy GUI on Red Hat Linux Enterprise servers

Starting WDeploy GUI on Red Hat Linux Enterprise Server 5.1 or Red Hat Linux Advanced Server 5.x with SE Linux enabled may result in the following error message:

```
Can't load 'perl/lib/site_perl/auto/XML/LibXML/Common/Common.so' for module
XML::LibXML::Common:
[...]/perl/extlibs/libz.so.1: cannot restore segment prot after reloc
```

To work around this problem, disable SE Linux:

1. Run `/usr/sbin/setenforce 0` with root privileges.

For example:

```
sudo /usr/bin/setenforce 0
```

2. Update the configuration file `/etc/sysconfig/selinux` so that the `SELINUX` parameter is set to disabled.

For example:

```
SELINUX=disabled
```

3. Reboot the system.

The WDeploy GUI is now able to start normally.

6.8 Copy MobileOTA14.properties after performing Web Tier installation

If you plan to use BI platform Mobile support, and you have performed a Web Tier installation, you must copy the `MobileOTA14.properties` file to the host that received the Web Tier installation (most likely, the web application server).

To copy `MobileOTA14.properties` to the host that received the Web Tier installation, use the following steps.

1. Locate `MobileOTA14.properties` on a host that received a *Full* or *Custom / Expand* installation of the BI platform.

The file `MobileOTA14.properties` is located in:

```
<BIP_INSTALL_DIR>/enterprise_xi40/wdeploy/conf/apps
```

2. Copy `MobileOTA14.properties` to the corresponding path on the host that received the Web Tier installation.

6.9 Cancel button in WDeploy GUI tool

Pressing the WDeploy [Cancel](#) button during the deployment of web applications to a web application server may not remove web applications or supporting files that have already been copied to the web application server.

To work around this problem, manually undeploy or delete the files from the web application server. With some web application servers, the [Cancel](#) button may be disabled. This is a known limitation of the JDK being used for deployment.

6.10 JBoss

6.10.1 Security exception when deploying AdminTools, dswsbobje, or BusinessProcessBI to JBoss 7.0

As of 4.3 SP2, sapjce.jar replaces certjFIPS.jar, cryptojFIPS.jar, ssljFIPS.jar, jcmFIPS.jar and cryptojce.jar. Some scenarios require additional DLLs and configurations (sapcrypto.dll, slcryptokernel.dll and slcryptokernel.dll.sha256). Refer to SAP Note [3153615](#) on how to configure SAP JCE for different scenarios.

6.10.2 Internal server error after clicking on AdminTools Login page in Jboss application server 7.x and above

When you click on the AdminTools login page, you may encounter an internal server error.

As of 4.3 SP2, sapjce.jar replaces certjFIPS.jar, cryptojFIPS.jar, ssljFIPS.jar, jcmFIPS.jar and cryptojce.jar. Some scenarios require additional DLLs and configurations (sapcrypto.dll, slcryptokernel.dll and slcryptokernel.dll.sha256). Refer to SAP Note [3153615](#) on how to configure SAP JCE for different scenarios.

6.11 SAP NetWeaver Technology Platform

6.11.1 Incorrect service level, patch level and name parameters displayed when deploying to SAP NetWeaver Technology Platform using SUM

When deploying BI platform 4.0 Support Package 1 or later web applications to your SAP NetWeaver application server component using SAP Software Update Manager (SUM), the `servicelevel`, `patchlevel` and `scn` parameters may display incorrect values and need correcting. To resolve the issue, ensure that each web application bundle's `SAP_metadata.properties` file has their parameters set to the following values:

- The `servicelevel` and `patchlevel` parameters must match the actual Support Pack and Patch release you are applying. For example:
 - For Support Package 1, set `servicelevel` to 1 and `patchlevel` to 0.
 - For Support Package 2 Patch 1, set `servicelevel` to 2 and `patchlevel` to 1.
- The `scn` and `name` parameters must have identical values. For example, if the `name` property is set to a value of `BOEWEBAPPJAVA` then `scn` property must also be set to `BOEWEBAPPJAVA`.

The `SAP_metadata.Properties` files for different web application bundles can be found in the following locations:

- `BOE.sca`: `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/SLDSupport/NWSLD/BOE`
- `dswebobje.sca`: `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/SLDSupport/NWSLD/dswebobje`
- `BusinessProcessBI.sca` (deprecated): `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/SLDSupport/NWSLD/BusinessProcessBI`
- `MobileOTA14.sca`: `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/SLDSupport/NWSLD/MobileOTA14`
- `OpenSearch.sca`: `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/wdeploy/SLDSupport/NWSLD/OpenSearch`

6.11.2 The WDeploy tool does not support deployment to or undeployment from SAP NetWeaver Technology Platform

The WDeploy tool does not support deployment to or undeployment from SAP NetWeaver technology platform. You must use the `predeploy` or `predeployall` commands of the WDeploy tool to create SCA files and deploy manually using SAP Software Update Manager (SUM). For detailed instructions on how to perform a manual deployment to SAP NetWeaver technology platform, see [SAP NetWeaver Technology Platform Deployment with SAP Software Update Manager \(SUM\) \[page 81\]](#).

6.11.3 HTTP 500 error while accessing CMC or BI launchpad after deploying BI 4.3 SP02 or above

As of 4.3 SP2, `sapjce.jar` replaces `certjFIPS.jar`, `cryptojFIPS.jar`, `ssljFIPS.jar`, `jcmFIPS.jar` and `cryptojce.jar`. Some scenarios require additional DLLs and configurations (`sapcrypto.dll`, `slcryptokernel.dll` and `slcryptokernel.dll.sha256`). Refer to SAP Note [3153615](#) on how to configure SAP JCE for different scenarios.

6.12 Tomcat

6.12.1 Undeploy web applications from Tomcat using WDeploy

The `wdeploy undeploy` command on a Tomcat web application server may encounter an error if the web application server is not shut down and still in use. Work around this issue by shutting down the Tomcat web application server before attempting to run the `wdeploy undeploy` command.

6.12.2 Tomcat may not initially load web applications after running WDeploy

Web applications newly deployed on Tomcat with the WDeploy tool may not initially load if a non-default context path is used. Restart Tomcat for the changes to take effect.

6.12.3 HTTP 404 error is displayed when explorer url is launched after an update installation

If you deploy SAP BusinessObjects Business Intelligence (BI) web applications to Tomcat 8 after you update SAP BusinessObjects Business Intelligence (BI) from 4.0 SP8 and onwards to 4.1 SP6 onwards, and if you launch explorer url, the following error is displayed: HTTP Status 404 - / explorer.

For Example: If you deploy BI web applications to Tomcat 8, after you update BI from 4.0 SP8 to 4.2 or 4.0 SP10 to 4.2, and if you launch explorer the following error is displayed: HTTP Status 404 - / explorer.

To work around this issue, perform the following steps:

1. Navigate to **Start** > *Central Configuration Manager*.
2. In the *Central Configuration Manager* window, select *Apache Tomcat 8*.
3. Choose *stop* at the top of the window to stop the *Apache Tomcat 8*.
4. . Navigate to <BOE_Install_Dir>SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4" .0\warfiles\webapps\explorer\WEB-INF.
5. In the Web.XML file replace
`com.businessobjects.webutil.internal.filters.StrutsParamFilter` with
`com.businessobjects.bip.core.web.filters.StrutsParamFilter` and save the file.
6. Redeploy the BOE and explorer web applications to tomcat 8 using Wdeploy.
7. In the *Central Configuration Manager* window, Select *Apache Tomcat 8* and choose *start*.

6.12.4 HTTP 500 error while accessing CMC or BI launchpad after deploying BI 4.3 SP02 or above

As of 4.3 SP2, sapjce.jar replaces certjFIPS.jar, cryptojFIPS.jar, ssljFIPS.jar, jcmFIPS.jar and cryptojce.jar. Some scenarios require additional DLLs and configurations (sapcrypto.dll, slcryptokernel.dll and slcryptokernel.dll.sha256). Refer to SAP Note [3153615](#) on how to configure SAP JCE for different scenarios.

6.13 WebLogic

6.13.1 Undeploy Web Services from WebLogic

The `wdeploy undeploy` or `wdeploy undeployall` commands may not remove the BusinessProcessBI and dswsbobje Web Services web applications from a WebLogic 10.3.x web application server.

To work around this problem, stop the BusinessProcessBI and dswsbobje web applications with the WebLogic administrative console and restart the web application server. When the web application server has restarted, use the `wdeploy undeploy` or `wdeploy undeployall` commands to remove BusinessProcessBI and dswsbobje.

6.13.2 Comparing Jobs in Visual Difference Throws Null Pointer Exception

Comparing Jobs in Visual Difference throws a null pointer exception for BI platform deployed on the Weblogic application server.

Workaround for the Issue

The problem is the way in which you deploy the application. If the application was deployed in exploded mode, `getRealPath` returns a valid value. But, if you deploy it as an archive having extensions such as `war` or `ear` you see a "null pointer" exception. Fortunately there is a simple way to avoid this exception. You can fix this problem on the domain level by setting the Weblogic Admin Console option Domain | Web Application | Archived Real Path Enabled to true.

You can also apply a fix on the application level by adding the following entry to the `weblogic.xml` file:

```
<container-descriptor>
<show-archived-real-path-enabled>true</show-archived-real-path-enabled>
</container-descriptor>
```

6.13.3 HTTP 500 error while accessing CMC or BI launchpad after deploying BI 4.3 SP02 or above

As of 4.3 SP2, sapjce.jar replaces certjFIPS.jar, cryptojFIPS.jar, ssljFIPS.jar, jcmFIPS.jar and cryptojce.jar. Some scenarios require additional DLLs and configurations (sapcrypto.dll, slcryptokernel.dll and slcryptokernel.dll.sha256). Refer to SAP Note [3153615](#) on how to configure SAP JCE for different scenarios.

6.14 WebSphere

6.14.1 Deployment to WebSphere in secured mode

A validation error may be generated when using WDeploy with a WebSphere installation that uses Secure Socket Layer (SSL) encryption. To work around this issue, use the `wsadmin` command to manually accept the SSL certificate before attempting to deploy with WDeploy.

For example, change directories to `<WEBSPPHERE_INSTALL_DIR>/AppServer/bin` and run the following command:

```
./wsadmin -conntype SOAP -port <SOAP_admin_port> -user <as_admin_username>
-password <as_admin_password>
```

Replace `<SOAP_admin_port>` with the port number used by WebSphere (e.g. 8880), `<as_admin_username>` with the username for your administrator account (e.g. admin), and `<as_admin_password>` with the password for the account you specified for `<as_admin_username>`.

Press **y** to accept the certificate, then proceed with the web application deployment using WDeploy.

ⓘ Note

To **change the memory heap size** in the JVM arguments, launch WebSphere and go to **Application servers > server1 > Process definition > Java Virtual Machine** and set the following parameter values:

- `<Initial heap size>` as 1024 MB
- `<Maximum heap size>` as 2048 MB
- `<Generic JVM arguments>` as `-XX:MaxPermSize=1024m`

6.14.2 Internal server error after deploying Web Services to WebSphere 7.0

You may encounter an internal server error after deploying the Web Services provider (`dswsbobje.war`) to WebSphere 7.0 with the Axis2 WS-addressing module enabled. The web services provider application (`dswsbobje.war`) is built on the Apache Axis2 web service framework which contains this module.

To workaroud this issue, the addressing module is disabled in a default installation of the BI platform.

If you are deploying to a web application server other than WebSphere 7.0, and want to enable the Axis2 WS-addressing module, edit the `axis2.xml` file and uncomment the line `<!--<module ref="addressing" />-->`. The `axis2.xml` file is located at `/WEB-INF/conf` in your Web Service provider WAR file. Restart your web application server for the changes to take effect.

6.14.3 WASX7017E: Exception deploying in WebSphere

You may encounter the following exception while using WebSphere:

```
com.ibm.websphere.management.exception.ConfigServiceException
com.ibm.websphere.management.exception.ConnectorException
org.apache.soap.SOAPException: [SOAPException: faultCode=SOAP-ENV:Client;
msg=Read timed out; targetException=java.net.SocketTimeoutException: Read timed
out]
```

To workaround this issue, try modifying the timeout values in the following locations:

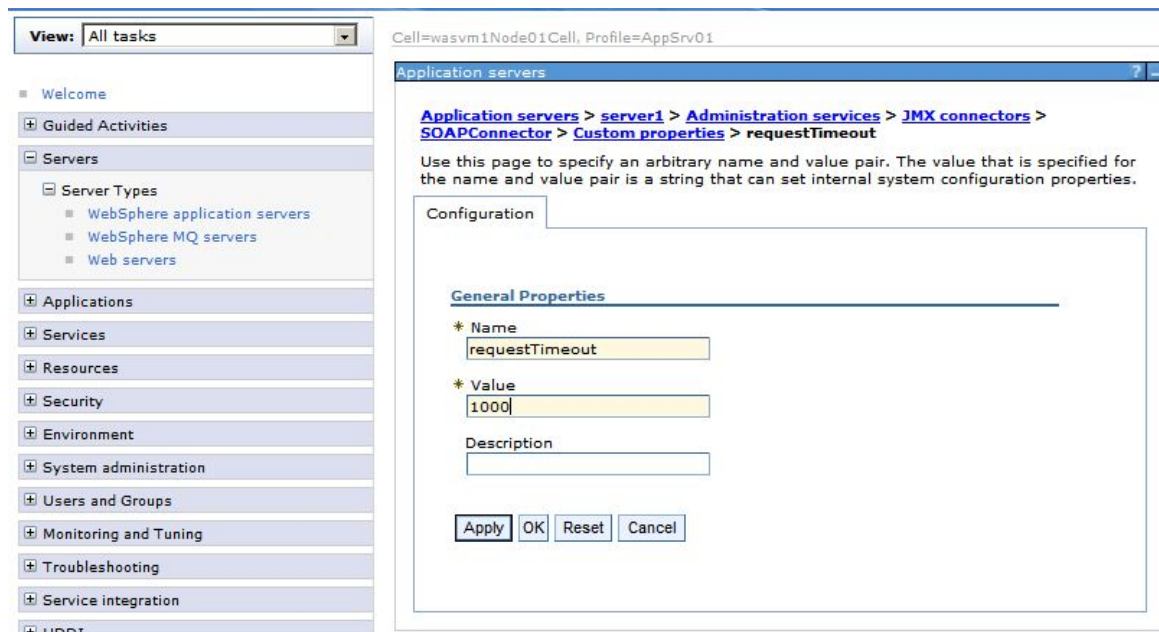
- Open the `soap.client.props` file and increase or remove the SOAP connection timeout set by the property:

```
com.ibm.SOAP.requestTimeout=0
```

`soap.client.props` is located at:

`<WAS_INSTALL_DIR>/profiles/<PROFILE>/properties/soap.client.props`

- In the WebSphere *Integrated Solutions Console*, increase the value of the `requestTimeout` property on the JMX SOAP connector for the application server:



Note

Images created using the third party tools are available in English language only.

ⓘ Note

Access the WebSphere console at `http://<WAS_HOSTNAME>:<PORT>/ibm/console`. The default port number is 9060.

6.14.4 BI Platform REST Web Services WebSphere deployment issue

As of the 4.2 SP6 release, the WebSphere application server supports the BI platform REST Web Services. Here is how to generate the `biprws.war` file that you deploy on WebSphere application server.

1. Open the command prompt and go to the `biprws` directory:

```
cd <BIP_INSTALL_DIR>/enterprise_xi40/warfiles/webapps/biprws
```

2. Run the following command:

```
jar -cvf biprws.war *
```

The `biprws.war` file is generated in `<BIP_INSTALL_DIR>/enterprise_xi40/warfiles/webapps/biprws`.

3. Deploy the war file on the WebSphere Administration Console following the steps described here: [WebSphere 8.5 administrative console manual deployment - Graphical User Interface Method](#). On step three, make sure to change the root context from `"/` to `"/biprws`.

6.14.5 dswsbobje on IBM WebSphere v9

An internal error message appears when the BI platform tries to access the web services after the deployment of `dswsbobje` on IBM WebSphere v9. You can refer to the SAP Note [2753212](#) for the solution to this issue.

6.14.6 HTTP 500 error while accessing CMC or BI launchpad after deploying BI 4.3 SP02 or above



As of 4.3 SP2, `sapjce.jar` replaces `certjFIPS.jar`, `cryptojFIPS.jar`, `ssljFIPS.jar`, `jcmFIPS.jar` and `cryptojce.jar`. Some scenarios require additional DLLs and configurations (`sapcrypto.dll`, `slcryptokernel.dll` and `slcryptokernel.dll.sha256`). Refer to SAP Note [3153615](#) on how to configure SAP JCE for different scenarios.

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