Crystal Reports Server 2008 Installation Guide for Linux

Crystal Reports Server 2008

linux

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Introduction to Crystal Reports Server 2008

chapter 1

What is Crystal Reports Server 2008?

Crystal Reports Server 2008 is a complete reporting solution to create, manage, and deliver Crystal Reports over the web. It is built on BusinessObjects Enterprise technology. It includes a report publisher and a web portal interface that is used to view reports.

Crystal Reports Server 2008 can be installed on a single machine for up to 20 end users to concurrently access, view, and interact with reports on the web without having Crystal Reports installed on their computers. It allows you to store reports in a central database for security and data integrity. Users can access the reports through the web portal.

With Crystal Reports Server 2008, you can set up security to control which end users can access specific folders and reports. You can also specify the rights for users, or groups such as who can schedule reports versus export reports.

Who is Crystal Reports Server 2008 for?

Crystal Reports Server 2008 is ideal for organizations that need to deliver reports over the web to smaller audiences. It does not require that you deal with multiple servers and complicated configurations. All components are installed on a single server. This feature enables you to install and set up the solution quickly.

The quick setup allows you to start using the software to increase the report development productivity and data security immediately.

About this documentation

This documentation provides you with information and procedures for installing Crystal Reports Server 2008. It also includes an overview of Crystal Reports Server 2008 with details about how it is built on the proven Business Intelligence platform, BusinessObjects Enterprise.

This documentation is required to perform new installation of Crystal Reports Server 2008.

Who should read this documentation

This documentation is intended for system administrators, IT professionals, or database administrators who need to install Crystal Reports Server 2008. Familiarity with the database environment and web server software is especially beneficial.

BusinessObjects Enterprise guides

Crystal Reports Server 2008 is built on the BusinessObjects Enterprise framework. Therefore, after you have finished installing Crystal Reports Server 2008, it is suggested that you begin consulting the BusinessObjects Enterprise guides at the Business Objects support site at: *http://support.businessobjects.com/documentation/product_guides/default.asp*

Preparing to install Crystal Reports Server 2008

chapter 2

Crystal Reports Server 2008 is a server-side installation. This means that you install it on one central server rather than on each user's machine. Users then access Crystal Reports Server from their individual machines through the web portal interface, known as InfoView.

Before you begin, see "System Requirements" section to ensure that you have the necessary components installed and configured correctly.

If you want to perform basic installation, go to *Performing new installation* on page 45.

If you want to configure a database separately for Crystal Reports Server 2008 before you begin your installation, see *Setting up a database account for Crystal Reports Server 2008* on page 28.

System requirements

For a detailed list of supported environments and hardware requirements, consult the Platforms Availability Report (PAR) file available on the Business Objects support site *http://support.businessobjects.com/documentation/product_guides/default.asp* This file includes specific version and patch-level requirements for web application servers, web browsers, and operating systems. For additional information that may pertain to the deployment, it is recommended that you see the *BusinessObjects Enterprise XI 3.0 Deployment Planning Guide*.

The following components must be installed and configured correctly on the server, before you install Crystal Reports Server 2008:

- Web application server (unless you want to install Tomcat as part of the installation of Crystal Reports Server 2008)
- Database software that is compatible with the CMS system (unless you want to install MySQL as part of the installation of Crystal Reports Server 2008).

Note: Crystal Reports Server 2008 requires a database to store information about the system and its users.

Tip: If you are installing on VMWare, ensure your machine name does not include any of the following characters: an underscore, a period, or a slash.

Linux permissions

To perform either a user or system installation on Linux, the user account under which the install is run must have read, write, and execute permissions to the directory where Crystal Reports Server is installed. Root privileges are not required to perform either a user or system install of Crystal Reports Server.

Caution: If you attempt to install Crystal Reports Server 2008 with root privileges, the installation will fail.

However, if you run a system installation, you do require root authority to run the system-level initialization script. This script, which is called `setupinit.sh`, is run after the installation completes. This script creates entries into the run control scripts for the operating system that start up the Crystal Reports Server when the Linux server is brought up, and stops the servers when a machine is shut down.

The following table summarizes all the required permissions for installing Crystal Reports Server.

Category	Required permissions
Operating System	Read, write, and execute permissions to the directory where Crystal Reports Server is installed . Root access if performing a system installation.
Network	Access to all machines via TCP/IP - all specified ports must be available
Database	Rights to add and drop tables to/from database, plus rights to read, write, and edit table rows

Minimum rights for deploying web applications

Tip: We recommend you to use the same user account for installing Crystal Reports Server and the web application server.

To deploy web applications using a user account different from the one used to install the web application server, you must ensure that the Crystal Reports Server user account has the privileges listed in the following table.

Web application server	Minimum required permissions
JBoss	• rights to read, write and execute files in `$as_dir/bin` • rights to remove the `$as_dir/server/${as_instance}/deploy/jbossweb-tomcat55.sar/jsflibs` directory • rights to read, write and execute files in `$as_dir/server/$as_instance/lib` • rights to read, write and execute files in `$as_dir/server/$as_instance/deploy`
Oracle	• rights to read and execute files in `$as_dir/j2ee/home` • rights to read and execute files in `$as_dir/opmn/lib` • rights to read, write and execute files in `$as_dir/opmn/conf`

Web application server	Minimum required permissions
SAP Web Application Server	• rights to read and execute files in `$as_dir/$as_sid/$as_instance/j2ee` • rights to read, write and execute files in `$as_dir/$as_sid/$as_instance/j2ee/deploying`
Tomcat	• rights to read, write and execute files in `$as_dir/bin` • rights to read, write and execute files in `$as_dir/shared/lib` • rights to read, write and execute files under `$ad_sir/webapps` and its subdirectories • rights to read, write and execute files under `$as_dir/conf` and its subdirectories

Web application server	Minimum required permissions
WebLogic	• right to read files under `$WL_HOME/server/lib` • right to read and write files under `$as_dir/bin/` • right to read and execute files under `$WL_HOME/jdk150_06/` (or the WebLogic JDK directory) • right to read files under `$WL_HOME/wlserver_10.0/common/bin` • right to read and execute files under `$WL_HOME/modules/` **Note:** `WL_HOME` is the weblogic installation dir and not `as_dir`, which is the domain root
WebSphere	• Right to read and execute `$as_dir/bin/wsadmin.sh` • Right to read and execute `$as_dir/bin/GenPluginCfg.sh` • Right to read `$as_dir/bin/securityProcs.jacl` • Right to read `$as_dir/bin/LTPA_LDAPSecurityProcs.jacl` • Right to read and execute files in `$as_dir/plugins` • Right to read and execute files in `$as_dir/java` • Right to read and execute files in `$as_dir/deploytool` • Right to read, write, and execute files in `$as_dir/properties` • Right to read, write, and execute files in `$as_dir/profiles`

Note: In addition to the right to execute files or folders mentioned in the above table, the right to execute is also required on the parent directory.

Setting up the Linux system

Crystal Reports Server integrates with your existing database and web server software components, so the installation script needs to collect certain information about your current system. Because Linux systems can vary significantly from site to site, the following sections detail the key tasks that you must perform prior to installing Crystal Reports Server.

Setting the locale

Before you install Crystal Reports Server, set your operating system to use one of the locales that Crystal Reports Server supports for your version of Linux. For a detailed list of supported Linux environments, see the *Product Availability Report* PDF available from the following Business Objects support site: *http://support.businessobjects.com/documentation/product_guides/default.asp*

Note: You must also ensure that the character set translation on your terminal is set to UTF-8.

If you are working through the console of a Linux machine, you can select your locale directly from the logon screen when you log on with the account from which you will install Crystal Reports Server. However, to ensure that your operating system uses the correct locale whenever Crystal Reports Server runs, set the `LC_ALL` and `LANG` environment variables to your preferred locale in your login environment. (For example, if you are using a C shell, set these environment variables in the `.login` file).

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

For more information on setting the locale,see the section on International Deployments in the *BusinessObjects Enterprise Administrator's Guide* at the Business Objects support site at: *http://support.businessobjects.com/documentation/product_guides/default.asp*

Checking for required commands and utilities

For the `install` setup program to run correctly, the following commands and utilities must be installed on the Linux system:

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

These relatively standard commands and utilities must be available on most Linux distributions. However, if for any reasons one of them is not available on your system, download and install a version appropriate to your Linux system. It is recommended that you obtain any required files from your Linux vendor.

Additionally, these commands and utilities must be accessible in the `PATH` environment variable of the user account that you use when installing Crystal Reports Server.

Creating an account, a home directory, and a login environment

Create a specific user account and group under which the Crystal Reports Server background processes can run. You will log on as this user in order to perform the remainder of the installation procedures. Although you will require root privileges to set up this account, the account itself does not require root privileges. Neither the installation scripts nor Crystal Reports Server itself needs to run as root.

Use your usual administrative procedures to perform these recommended tasks.

To set up an account for installing Crystal Reports Server:

1. Create a new group or use an existing group. Create a new user account, and set this user's primary group to the new group. Assign a secure password to the new user account.
2. Create the directory where you want to install Crystal Reports Server.

   By default, the installation will use your current directory as its base directory for the install, that is, the directory where you run `install.sh`. You can override this default directory with the directory of your choice at install time. You will see the directory that you specify for the installation directory referred to as `INSTALLDIR` throughout this document.
3. Ensure that the account you created has read, write, and execute permissions on the new installation directory.
4. Assign the new user a default login shell, and create or modify the appropriate login script(s) for the user account. In particular, make sure that the login script(s) set up a default login environment that meets these requirements:
   - All of the commands and utilities required by the `install` setup program must be accessible in the `PATH` environment variable.
   - The user's login environment must set up the database environment such that the `install` setup program can access your database client software.
   - The user's login environment must set up a default locale that is supported by your Linux system and Crystal Reports Server.

Related Topics

- *Checking for required commands and utilities* on page 18
- *Providing and verifying connectivity to the CMS database* on page 35
- *Setting the locale* on page 17

Meeting the host name and network requirements

The Linux server must have a fixed host name before you run the installation script. You must have root privileges to set or modify this information on your system. If you are unfamiliar with these procedures, see Linux system documentation.

Note: If you are installing Crystal Reports Server in a firewall environment, you will need additional configuration details. See the "Working with Firewalls" section of the *BusinessObjects Enterprise Deployment and Configuration Guide*.

Difference between user and system installation

When you perform a new installation on Linux system, you can choose between a user and a system installation.

- When you choose a user installation, all the required components are installed.
- When you choose a system installation, all the required components are installed; in addition, the installation creates a system-level initiation script. This script creates entries into the run control scripts for the operating system that start up the servers of Crystal Reports Server when the Linux server is brought up and stops the servers of Crystal Reports Server when a machine is shut down.

Note: To perform a system installation, you do not require root-level authority. However, to run the system-level initiation script root-level authority is required.

Setting up server communication

Crystal Reports Server requires a database server and web application server software to be installed and configured if you want to use an existing database or web application server. You can also choose to install a database server (MySQL) and a Web application server (Apache Tomcat 5.5) during your installation of Crystal Reports Server.

You must ensure that all Crystal Reports Server machines can communicate properly with one another:

- Each Crystal Reports Server machine must be able to communicate over TCP/IP with the machine that runs your Central Management Server(CMS). The CMS is responsible for maintaining a database of information about your Crystal Reports Server system, which other components can access as required. The data stored by the CMS includes information about users and groups, security levels, Crystal Reports

Server content, and servers. For more information about the CMS, see the “Managing and Configuring Servers” chapter in the *BusinessObjects Enterprise Administrator’s Guide*.

- If the host machine has more than one Network Interface Card (NIC), the CMS may automatically bind to a primary NIC. If the primary NIC is not routable, you may have to reconfigure your servers after installation. Alternatively, you could make the primary NIC routable before installing Crystal Reports Server. For more information on how to reconfigure to bind to routable NICs see the “Managing and Configuring Servers” chapter in the *BusinessObjects Enterprise Administrator’s Guide*.
- Linux servers that run Crystal Reports Server must have a fixed hostname. You must have root privileges to set or modify a fixed host name on your system. However, you do not require root privileges to perform a user installation of Crystal Reports Server. If you are unfamiliar with these procedures, consult your Linux system documentation.

  Note: Please ensure that the host name you use does not include any of the following characters: an underscore, a period, or a slash.
- Ensure that your database client and server are set up to use Unicode character encoding(such as UTF-8). Consult your database documentation to determine the settings required for a Unicode configuration.
- If you connect Crystal Reports Server to a web application server, the web application server must be able to communicate with all Crystal Reports Server machines. If you plan to use a Java application server and your existing application server does not include a version of the Java Development Kit (JDK) supported by Crystal Reports Server, you will need to install it.
- If you are installing Crystal Reports Server in a firewall environment, you will need additional configuration details. See the "Working with Firewalls" section of the *BusinessObjects Enterprise Administrator’s Guide*.

Choosing a server location

When planning your Crystal Reports Server installation, you should also consider where you will place your deployment’s servers.

Your Crystal Reports Page Server, Connection Server, Job Servers, and Report Application Server communicate frequently with the database servers

containing the data in your published reports. To optimize data retrieval and minimize network traffic, place your processing servers close to your database servers (ideally, on the same subnet).

If the Crystal Reports Server installation is distributed over a wide geographic region, use server groups to create groups of nearby servers to process reports. The Central Management Server (CMS) stores data about users and groups, security levels, published objects, and servers in the CMS database. To optimize CMS performance, place your CMS on the same LAN as the database servers that host your CMS database. If you are deploying more than one CMS, ensure each machine that runs a CMS process experiences the same latency to the system database.

Consult the "Managing and Configuring Servers" section of the *BusinessObjects Enterprise Administrator's Guide* for information on other factors that you may want to consider in planning the Crystal Reports Server installation.

Installation scenarios

Before you install Crystal Reports Server 2008, consider which of thefollowing is your intended scenario:

- New installation
- Silent installation

New installation

Performing a new installation is the easiest way to deploy Crystal Reports Server 2008, because all the required client, server, and optional components are installed by default on a single machine.

Note:

After the installation, you can easily disable any components you do not require.

You may want to choose a new installation if:

- You have not installed Crystal Reports Server 2008 before.
- You want to install all the components on the same machine.

- You do not have stringent disk space limitations.
- You do want to specify the components to be installed.

Related Topics

- *Performing new installation* on page 45

Silent installation

You can run a silent installation to install Crystal Reports Server 2008 from the command line using a response file that contains the installation setup parameters. This method is particularly useful if you want to perform multiple installations, or you do not want to interrupt users who are working on machines in your system.

You can also incorporate the silent installation command into your own build scripts. For example, if your organization uses scripts to install software on machines, you can add the silent Crystal Reports Server 2008 installation command to those scripts.

You may want to choose a silent installation if:

- You are already familiar with the Crystal Reports Server 2008 installation program.
- You need an automated method to perform similar installations on several machines.
- You do not want to run the Crystal Reports Server 2008 Setup program.

Note:

Crystal Reports Server 2008 does not support silent installation when the installation contents are on multiple CDs. If the installation source files are on multiple CDs, you must first copy the contents from all the CDs to a central location, such as a hard-drive, and then run the silent installation command from the location that contains the contents from all the CDs.

CMS System Requirements

Database requirements

Before you create the relational database that you want to integrate with Crystal Reports Server, consider the following sections that detail what settings are required when the relational database is created and what settings you should test before beginning your Crystal Reports Server installation.

The one requirement that applies, regardless of your database type, is that your relational database be set up to use Unicode character encoding (such as UTF-8). For more information on database requirements, refer to the "Databases in BusinessObjects Enterprise" section in the *BusinessObjects Enterprise Deployment Planning Guide*.

Using a supported database server

The CMS supports a number of third-party database servers, so you can connect Crystal Reports Server to your existing database infrastructure. For a detailed list of supported database servers see the *Product Availability Report* PDF available from the Business Objects support site. If you do not have a database installed on your machine you choose to install and configure MySQL as your CMS database through the Crystal Reports Server installation setup program.

Sourcing the script that identifies the database environment

If you are using an existing database, you need a method to connect to it from within Crystal Reports Server. This is done through your database client. In this document, the terminology used for this operation is to source the script that identifies the database environment variables.

If you are integrating Crystal Reports Server with a different web application server than the version of Tomcat that can be configured with your installation, you may need to source the environment script. This will set up the required variables for Crystal Reports Server.

Technically, sourcing your environment script involves running a script in your current environment. When your database client is sourced from within Crystal Reports Server, all the required environment variables for your database are set up and exported.

Your database client or the Crystal Reports Server environment script can be sourced from the command line, entered into a profile, or entered into another script.

- To source your database client from the command line, you can execute the script that sets up the variables required by your database client to access your database. For example, in the bash shell, you can type this:

```
source ora10env.sh
```

- To source the Crystal Reports Server environment script, you can execute the script that sets up the variables required. For example, you can add this to the Tomcat `setenv.sh` or the WebSphere `startup` script:

```
source "<INSTALLDIR>/bobje/setup/env.sh"
```

Note that the syntax used to source a script varies based on the type of shell you are using. Some Linux shells use source as the syntax for this operation; some Linux shells use the .(dot operator). Please consult the documentation for your shell to determine the appropriate syntax.

Shell name	source	. (dot operator)
Bourne shell (sh)	no	yes
Korn shell (ksh)	no	yes
Bourne Again Shell (bash)	yes	yes
C shell (csh)	yes	no
Turbo C shell (tcsh)	yes	no

Using MySQL

MySQL database server is an open-source database that provides local data storage. The setup program can configure MySQL along with your Crystal

Reports Server components. If you already have MySQL installed, the installation program creates the CMS database using your existing database. During the installation of Crystal Reports Server, you specify what database server you will use and enter the required parameters for authentication.

Setting up an empty database for the CMS

Crystal Reports Server requires a relational database to store information about the system and its users. You can install a MySQL database during the installation, or you can use an existing database. If you want to create a new MySQL database during the installation, this section does not apply to you.

If you want to use an existing database, you or your database administrator must create a new database on your database server before you install Crystal Reports Server. We strongly recommend that new database be used only for Crystal Reports Server, and do not contain other tables.

The following database servers are supported on Linux:

- Oracle
- DB2
- Sybase
- MySQL

Note: See the `Platforms.txt` file included with your product distribution for a complete list of supported database software and version requirements.

If you plan on integrating your own database with Crystal Reports Server, rather than installing MySQL with your installation, consult these section for details on database setup requirements before you create your database:

- *DB2 database setup requirements* on page 31
- *Oracle database setup requirements* on page 33
- *Sybase database setup requirements* on page 34
- *MySQL database setup requirements* on page 30

If you plan on integrating your own database with Crystal Reports Server, you have to prepare it before your installation. Here is a summary of the steps that will be part of your preparation:

- Creating a new database.

Tip: You have to name the new database as bobjecms, and create a new user account named bobje. However, this naming convention is not required.

Note: If you have a previous release of Crystal Reports Server, you cannot use your database from a previous release for Crystal Reports Server 2008; You must create a new database for this release. If you use a database from a previous release, you will destroy any existing data. Create a new database instead, and after you have completed your installation, you can migrate your old content to the new current version's database.

- Creating a new user account and password for this database that will be used by Crystal Reports Server.
- Ensuring that this new account has permission to create, modify, and delete tables and create procedures so that Crystal Reports Server can modify the database as required.
- Recording the name of the database, the user account, and the password when you run the Crystal Reports Server installation script.

During the installation process, the install script asks you if you want to reinitialize the database. Choosing to do so causes the install script to create new tables in the database to store Crystal Reports Server's data. (In Oracle, choosing this option causes the install script to create Crystal Reports Server's tables in the default schema of the user whose name you provided during the install.)

- Consult your database server documentation and/or your database administrator if you are unsure of the procedure for creating a new database.
- Ensure that your database server is set up to use Unicode character encoding (such as UTF-8). Consult your database documentation to determine the settings required for a Unicode configuration. For database servers such as Oracle and Sybase, during installation you need to configure the server to use Unicode encoding for the character data types. For other databases, such as DB2, you can create the CMS database with Unicode settings on your existing database server.

Setting up a database account for Crystal Reports Server 2008

To administer the CMS database, set up a database account. If you choose to install MySQL as a part of the Crystal Reports Server 2008 installation, you will be prompted during installation to set up this account. If you plan to use your own database, you must complete the following steps before installing Crystal Reports Server 2008:

1. Create or select a user account that provides Crystal Reports Server 2008 with the appropriate privileges on your database server.
2. Verify that you can log into your database and carry out the administrative tasks using this account.

Related Topics

- *System requirements* on page 12

Preparing your CMS System Database Server

Prerequisites for database preparation

Before you prepare your database, you must have already created it. Ensure you have created the database with the required settings for your existing database server.

Related Topics

- *DB2 database setup requirements* on page 31
- *Oracle database setup requirements* on page 33
- *Sybase database setup requirements* on page 34
- *MySQL database setup requirements* on page 30

Preparing your existing database server

After you have created your database, and before you install Crystal Reports Server 2008, you or your database administrator need to prepare your own database server, so the CMS can connect to it.

During your installation, you will be asked whether you want to install MySQL or use an existing database. If you specify that you will you use an existing database, you will be asked for details about your database.

Although you are required to provide the details about your database during the installation, you will not be asked to provide your database name unless you are using an existing version of MySQL. This table summarizes the information you will be required to enter to identify your database during the installation if your are using Sybase, Oracle, or DB2.

Database type	Information required at install time
MySQL	Port number
Sybase	Sybase Server Name
DB2	DB2 database alias
Oracle	tnsnames connect identifier

Note: On Linux deployments the Sybase Server Name is a combination of the server name and the port number which is set by your database administrator in the interfaces file. The database the installation connects to is the default database for the user profile. This default database is to set by the DBA in the profile of the account from which you will install and run Crystal Reports Server 2008.

Preparing your database

1. Create a new, empty relational database on your database server.
2. Create a new user and assign it a secure password.
3. Ensure that the new account has permission to create, modify, delete tables and create procedures so that Crystal Reports Server 2008 can modify the database as required.

Note: If you are not the owner of the database, you will need to have permissions to perform the necessary operations.

4. If you are using MySQL, Sybase, Oracle, or DB2, ensure the following are set up before you begin your installation:

Database type	Ensure this has been configured
MySQL	MySQL port number
Sybase	Sybase Server Name
Oracle	tnsnames connect identifier
DB2	DB2 database alias

During the install, you will be asked for information regarding your database.

5. Record these details as they will be required during your install:
   - The name of your database, your Sybase Server Name, your Oracle tnsnames connect identifier, or your DB2 database alias.
   - The user account and the password authorized to the database.

     Tip: You may want to record the required details on the Installation Checklist at the end of this chapter, so the information is available when you install.

For information on how to create a new relational database, consult your database server documentation or your database administrator. For information on how to migrate your initial CMS database to another supported database server, see the *BusinessObjects Enterprise Deployment Planning Guide*.

MySQL database setup requirements

There are no specific parameters for an existing MySQL database, that are crucial for Crystal Reports Server 2008 to work, other than UTF-8. If you select the option to install and configure MySQL that is available with the installation, the installation creates a MySQL database with the default settings for the CMS database.

Once the database is created, prepare it for the Crystal Reports Server 2008 installation.

Related Topics

- *Preparing your existing database server* on page 29

Testing MySQL environment variables

If you are using an existing MySQL database, ensure the following variable is set for the user who will install Crystal Reports Server 2008:

MYSQL_HOME

If this variable is not set, and you have specified that you are using an existing MySQL database, the installation will not proceed and you will receive an error message. Consult the documentation for MySQL for information on how to configure the MySQL database server.

DB2 database setup requirements

If you are using a DB2 database with your Crystal Reports Server 2008 deployment, there are specific settings you need to select when the database is created. It is not sufficient to modify these settings after the database is created.

When you create the database to use with Crystal Reports Server 2008:

- Ensure that the CMS database is not partitioned.

  If your DB2 CMS database is partitioned, you will have problems creating the CMS database.

- Create the database with the following specific settings:

  ```
  Collating Sequence = "Identity"
  Codeset = "UTF-8"
  Territory = "XX"
  ```

  If the DB2 database does not have the correct collating sequence settings, the users and usergroup objects may not be sorted properly in the Central Management Console (CMC). Replace `XX` with the code that is appropriate to the code set and codepage for the location. Consult the DB2 documentation for more information.

Note: If you are using DB2 8.1, you require a C compiler that is installed and configured to build SQL stored procedures. DB2 8.2 through version 9.1 do not have this requirement. SQL stored procedures are used in Crystal Reports Server 2008 when users are added to groups in the CMS. See the DB2 documentation for details on how to configure the C compiler for SQL stored procedures, and for determining what version of the C compiler is supported on your platform.

After you create your database you will need to prepare it for the Crystal Reports Server install. For details, see *Preparing your existing database server* on page 29. In addition, before you begin the install of Crystal Reports Server, you must ensure the DB2 environment variables are set up correctly. For details, see *Testing DB2 environment variables* on page 32.

Testing DB2 environment variables

If you choose to connect to DB2 through a native connection, the installation searches the current shell for the `DB2INSTANCE` environment variable. This standard DB2 environment variable must be set in order for the `install` script to utilize the DB2 client software.

If you are using an existing database, you need to source your database client. For information about this process see *Sourcing the script that identifies the database environment* on page 24.

Sourcing the script that identifies the database environment variables can be done in one of two ways:

- The user who performs a system installation can modify the Crystal Reports Server script `setupint.sh` to add the command to source your database client. However, root access is required to execute this script. This script can be found at the following location: `<install dir>/bobje/init/setupint.sh`. This method will source the database for all users.
- Each person with a user installation can modify their profile and add the command to source their database environment. This method can be done anytime.

  For example, if an DB2 database was required, an entry would be made in the user profile to source the environment script used by DB2 (db2profile). Consult your database documentation for the name of its environment script.

Note: Instead of sourcing the script that identifies the database environment variables, you can manually set the environment variables required by your database. However, if you manually set the environment variables, you will need to set them again if the system is restarted.

Consult your database documentation and/or your database administrator if the account shell environment from which you will install Crystal Reports Server has not yet been set up for your database client software, or if you are unable to connect successfully to the database.

Oracle database setup requirements

There are no specific parameters for an Oracle database, that are crucial for Crystal Reports Server 2008 to work, other than UTF-8.

Once the database is created, set it up for the Crystal Reports Server 2008 installation.

Testing Oracle environment variables

If you choose to connect to Oracle through a native connection, the installation searches the current shell for the `ORACLE_HOME` environment variable. This standard Oracle environment variable must be set in order for the `install` script to utilize the Oracle client software.

If you are using an existing database, you need to source your database client. For information about this process see *Sourcing the script that identifies the database environment* on page 24.

Sourcing your database client can be done in one of two ways:

- The user who performs a system installation can modify the Crystal Reports Server script `setupint.sh` to add the command to source your database client. However, root access is required to execute this script. This script can be found at the following location: `<install dir>/bobje/init/setupint`.sh. This method will source the database for all users.
- Each person with a user installation can modify their profile and add the command to source their database environment. This method can be done anytime.

For example, if an Oracle database was required, an entry would be made in the user profile to source the environment script used by Oracle (`oraXXenv.csh` or `oraXXenv.sh` where XX is replaced with the version number). Consult your database documentation for the name of its environment script.

Note:

- Instead of sourcing the script that identifies the database environment variables, you can manually set the environment variables required by your database. However, if you manually set the environment variables, you will need to set them again if the system is restarted.
- Consult your database documentation and/or your database administrator if the account shell environment from which you will install Crystal Reports Server has not yet been set up for your database client software, or if you are unable to connect successfully to the database.

Related Topics

- *Sourcing the script that identifies the database environment* on page 24

Sybase database setup requirements

If you are using Sybase, when you create the database for the CMS, ensure that the page size is set to 8 KB.

Note: The default page size of Sybase database is 2 KB, which is too small for the CMS system database. For the CMS to run optimally, the page size must be 8 KB. The page size must be set during the database creation, and it cannot be changed after the database is set up.

Once the database is created, prepare it for the Crystal Reports Server 2008 installation.

Testing Sybase environment variables

If you choose to connect to Sybase through a native connection, the installation searches the current shell for the `SYBASE` and `SYBASE_OCS` environment variables. These standard Sybase environment variables must be set in order for the `install` script to utilize the Sybase client software.

If you are using an existing database, you need to source the script that identifies the database environment variables. For information about this process see *Sourcing the script that identifies the database environment* on page 24.

Sourcing the script that identifies the database environment variables can be done in one of two ways:

- The user who performs a system installation can modify the Crystal Reports Server script `setupint.sh` to add the command to source your database client. However, root access is required to execute this script. This script can be found at the following location: `<install dir>/bobje/init/setupint.sh`. This method will source the database for all users.
- Each person with a user installation can modify their profile and add the command to source their database environment. This method can be done anytime.

  For example, if a Sybase database was required, an entry would be made in the user profile to source the environment script used by Sybase (`SYBASE.sh` or `SYBASE.csh`). Consult your database documentation for the name of its environment script.

Note:

- Instead of sourcing the script that identifies the database environment variables, you can manually set the environment variables required by your database. However, if you manually set the environment variables, you will need to set them again if the system is restarted.
- Consult your database documentation and/or your database administrator if the account shell environment from which you will install Crystal Reports Server has not yet been set up for your database client software, or if you are unable to connect successfully to the database.

Providing and verifying connectivity to the CMS database

To create tables and write data to your new CMS database, the installation scripts need to establish a connection to the database server. That is, when you log on to Linux system with the user name from which you will perform

the installation, the default shell environment must include the appropriate database environment variables and/or initialization files. Only then, the installation setup program can access the CMS database using your database client software.

The environment variables and/or files required by the installation scripts depend upon the type of database server you are running.

Additional database environment variables must be set in order for the installation script to use the database client software properly. Before running the installation script, test the shell environment of the account from which you will install Crystal Reports Server to verify database connectivity and privileges. See the procedure that corresponds to your database.

- *Testing Sybase environment variables* on page 34
- *Testing Oracle environment variables* on page 33
- *Testing DB2 environment variables* on page 32

Verifying Sybase native connectivity through a server name

1. Log on to the Linux server with the user account and password which you will use to perform your installation.

   Note: This account should already be set up. See *Creating an account, a home directory, and a login environment* on page 18 for more information on setting up a Linux account to use when you install Crystal Reports Server.

2. Echo the following environment variables and ensure that their values correspond to your database client software installation.

Variable	Value
`SYBASE`	This variable contains the path to the root directory of your Sybase client installation (one level above the SYBASE_OCS version directory).

Variable	Value
SYBASE_OCS	This variable contains the name of the Sybase version directory (one level above the Sybase bin and lib directories).
library path	The library search path (LD_LIBRARY_PATH on Solaris and Linux) must include the lib directory of your Sybase client installation.
PATH	The search path must include the bin directory of your Sybase client installation.

This example checks the required variables, and shows sample output values:

```
$ echo $SYBASE
/opt/sybase/12.0
$ echo $SYBASE_OCS
OCS-12_0
$ echo $LD_LIBRARY_PATH
/export/home/sybase/12.0/OCS-12_0/lib
$ echo $PATH
/usr/bin:/usr/ucb:/etc:.:/export/home/sybase/12.0/OCS-
12_0/bin
```

3. Issue the following command to run the Sybase SQL tool and connect to the database server:

   ```
   isql -U user -P password -S servername
   ```

   Replace user, password, and servername with the appropriate values. If the shell environment has been configured correctly, you are connected to Sybase.

4. Issue the following command to ensure that the account has permission to create tables:

```
use aps
go
create table sampletable (def_field char(10))
go
sp_help sampletable
go
```

5. Issue the following command to ensure that the account has permission to delete tables:

```
drop table sampletable
go
sp_help sampletable
go
```

6. Type `quit`

Verifying Oracle native connectivity through a TNS

1. Log on to the Linux server with the user account and password which you will use to do your install.

   Note: This account should already be set up. See *Creating an account, a home directory, and a login environment* on page 18 for more information on setting up a Linux account to use when you install Crystal Reports Server.

2. Echo the following environment variables and ensure that their values correspond to your database client software installation.

Variable	Value
`ORACLE_HOME`	This variable contains the path to the root directory of your Oracle client installation (one level above the Oracle `bin` and `lib` directories).

Variable	Value
library path	The library search path (`LD_LIBRARY_PATH` on Solaris and Linux, `LIBPATH` on AIX, and SHLIB_PATH on HPUX) must include the `lib32` directory of your Oracle client installation.
`PATH`	The search path must include the `bin` directory of your Oracle client installation.

This example checks the required variables and shows sample output values.

```
$ echo $ORACLE_HOME
/home/dbclient/oracle/10.1.0.3
$ echo $LD_LIBRARY_PATH
/home/dbclient/oracle/10.1.0.3/lib32
$ echo $PATH
/usr/local/bin:/home/dbclient/oracle/10.1.0.3/bin
```

3. Issue the following command to run the Oracle SQL tool and connect to the appropriate service name:

   `sqlplus` *`accountname/password@tnsname`*

   Replace accountname,password and tnsname with the appropriate values. If the shell environment has been configured correctly, you are connected to Oracle.

4. Issue the following command to ensure that account has permission to create tables:

   ```
   create table sampletable (field1 char(10));
   ```

5. Issue the following command to ensure that the account has permission to delete tables:

   ```
   drop table sampletable;
   ```

6. Issue the following command to ensure that the account has permission to create procedures:

```
CREATE PROCEDURE test_proc (foo_in VARCHAR, bar_in VARCHAR)
 IS
BEGIN
INSERT INTO test_table (foo, bar) VALUES (foo_in, bar_in);
END;
```

7. Issue the following command to ensure that the account has permission to drop procedures:

```
DROP PROCEDURE TEST_PROC;
```

8. Type `exit`

Verifying DB2 native connectivity through a database alias

1. Log on to the Linux server with the user account and password which you will use to do your install.

   Note: This account should already be set up. See *Creating an account, a home directory, and a login environment* on page 18 for more information on setting up a Linux account to use when you install Crystal Reports Server.

2. Echo the following environment variables and ensure that their values correspond to your database client software installation.

Variable	Value
`DB2INSTANCE`	This variable defines the current DB2 database instance.
INSTHOME	This variable contains the path to the root directory of your DB2 client installation

Variable	Value
DB2DIR	This variable contains the path to the root directory of your DB2 installation (one level above the DB2 bin and lib directories).
library path	The library search path (LD_LIBRARY_PATH on Solaris and Linux, LIBPATH on AIX, and SHLIB_PATH on HPUX) must include the lib directory of your DB2 client installation.
PATH	The search path must include the bin directory of your DB2 client installation.

This example checks the required variables and shows sample output values.

```
$ echo $DB2INSTANCE
db2inst1
$ echo $DB2DIR
/opt/IBMdb2/V7.1
$ echo $LD_LIBRARY_PATH
/export/home/db2inst1/sqllib/lib
$ echo $PATH
/usr/bin:/usr/ucb:/etc:.:/export/home/db2inst1/sqllib/adm:/ex
port/home/db2inst1/sqllib/misc
```

3. Issue the following command to run the DB2 SQL tool:

   ```
   db2
   ```

4. Issue the following command to connect to the desired database alias:

   ```
   connect to db_alias user accountname using password
   ```

   Replace db_alias and password with the appropriate values. If the shell environment has been configured correctly, you are connected to DB2.

5. Issue the following command to ensure that the account has permission to create tables:

   ```
   create table sampletable (col_fld char(10) not null)
   ```

6. Issue the following command to ensure that the account has permission to delete tables:

   ```
   drop table sampletable
   ```

7. Type `terminate`

Before you deploy web applications

Your web application server must be installed and working before you attempt to install Crystal Reports Server. Consult your web application server documentation for installation instructions.

To deploy and run the CMC and InfoView applications, your web application server should have at least 1.2 GB of free disk space, in addition to any other requirements specified by other software installed on the machine.

It is recommended that you change the heapsize and maximum perm size settings of your JVM to 1024m and 256m respectively. If using Tomcat for example, your modified settings would look like:

```
JAVA_OPTS="$JAVA_OPTS -Xmx1024m -XX:MaxPermSize=256m"
```

Consult your JVM documentation for more information about changing your Java memory settings.

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

```
http://<HOSTNAME>:<PORT>
```

Replace `<HOSTNAME>` with the host name, and `<PORT>` with the port number used for HTTP. Consult your web application server documentation for installation instructions.

New installation of Crystal Reports Server 2008

chapter 3

Setting up product distribution

This section shows how to distribute Crystal Reports Server so that you can perform an installation.

You can perform this installation remotely through a telnet session, or locally through a terminal window. If you will connect remotely to install Crystal Reports Server, be sure to set your terminal settings to VT100 before beginning the installation.

There are two ways you can set up the product distribution:

- Before you run `./install.sh`, you can copy the installation files to a temporary location.
- When you run `./install.sh`, you can specify the temporary location to place the installation distribution.

Before following this procedure, ensure that you have set up your Linux system appropriately.

Related Topics

- *Setting up the Linux system* on page 17

Running the product distribution directly from a CD

By default, the installation will use your current directory, that is, the directory from which you run `install.sh`, as it is a base directory for the install. If you run `install.sh` without copying the files to a temporary location, you will be prompted to specify a temporary location for the install. After you specify the temporary location, the following tasks will happen:

- The installation files will be copied to that temporary location.
- The installation program will exit.

You are then required to go to the temporary location you specified, and then run `install.sh` from that location.

Copying the product distribution to your machine

By default, the installation will use your current directory, that is, the directory from which you run `install.sh`, as it is a base directory for the install. You may want to copy the product distribution to directory on your machine and run `install.sh` from there. The advantage of this option is that when you run `install.sh`, you will not be prompted for a temporary location to put the files.

To copy the product distribution to your machine, perform the following steps:

1. Log on to your Linux system under the new account designated for installing Crystal Reports Server.
2. Copy the installation files from the product distribution to a temporary directory with this command where `/mnt/cd` is mapped to the CD drive and `tmp` is a temporary directory where you want to store the installation files:

   ```
   /mnt/cd/install -t /tmp/
   ```

3. Proceed to *Performing new installation of Crystal Reports Server 2008* on page 46.
4. Run `install.sh` from the CD.

Related Topics

- *Creating an account, a home directory, and a login environment* on page 18

Performing new installation

Performing new installation is the simplest way to deploy Crystal Reports Server 2008 because all the required and optional components are installed by default on one machine.

The setup of a new installation of Crystal Reports Server 2008 requires the following inputs:

1. Providing information to the system administrator for the new installation.
2. Configuring the system database. You can either install and configure MySQL, or configure the existing database.
3. Providing information about the Server Intelligence Agent (SIA).

4. Setting up and configuring the Web Application Server. You can either install and configure Tomcat, or configure the existing Web application server.
5. Confirming the installation directory.

Performing new installation of Crystal Reports Server 2008

To setup a new installation of Crystal Reports Server 2008, perform the following steps:

1. Mount the device that contains the installation files.
2. Type `./install.sh` in the command-line and press **Enter**.

   Note: If you run `install.sh` without copying the files to a temporary location, you will be prompted to specify a temporary location for the install.

   The installation setup program is launched and you are prompted to select a language for the installation.
3. Select a language for the installation and press **Enter**.

   You can select from one of the following languages:

   - German
   - English
   - Spanish
   - French
   - Italian
   - Japanese
   - Korean
   - Dutch
   - Portuguese
   - Swedish
   - Simplified Chinese
   - Traditional Chinese

   The "Business Objects License Agreement" is displayed.
4. Type **y** to agree to the terms and continue with the setup program.

The "Enter Product Keycode" screen is displayed.

5. Enter your keycode in **Crystal Reports Server Product Keycode**.
6. Press **Enter** to validate the keycode.

   The setup program validates the keycode and the "Installation Directory" screen is displayed.

7. Specify an installation directory.
   - Press **Enter**, to accept the default installation directory.
   - To create your own directory, use the **Backspace** key to remove the current directory and replace it with your own path to the required installation directory and press **Enter**.

   You are prompted to select which language packs to install.

8. Select any additional language packs you want to install.

   The following languages are available:
   - German
   - English
   - Spanish

- French
- Italian
- Japanese
- Korean
- Dutch
- Portuguese
- Swedish
- Simplified Chinese
- Traditional Chinese

Note: English is a required language and cannot be deselected.

9. Press **Enter**.

   Note: You can also add language packs after installing Crystal Reports Server on Linux.

   You are prompted to select either a user or system installation.

10. Select the type of installation you want to perform.
    - **User**
    - **System**

    To know the difference between User and System installation, see the section *Difference between user and system installation* on page 20.

11. Press **Enter**.

    The "InstallationType" screen is displayed.

12. Select **New** installation type.
13. Select or deselect **Enable servers after installation**.

    This option is selected by default. Scroll down and use the spacebar to deselect the field.

14. Press **Enter**.

    "Enter the information for your new CMS" screen is displayed.

15. Enter a valid port number in **CMS Port Number**. or accept the default number- 6400.

16. Enter the same password under **Administrator Password** and **Confirm Password** and press **Enter**.

    Note: You can also leave the passwords fields blank and configure the password at a later time. Your password must be at least six characters long and should contain two of the following options:

    - upper case character
    - lower case character
    - number
    - punctuation

17. Select a system database option. You can choose one of the following options:

    - Use an existing database (Oracle/DB2/Sybase/MySQL)
    - Install MySQL

    If you choose **Use an existing database (Oracle/DB2/Sybase/MySQL)** option, see the section *Configuring the existing database server* on page 53. If you choose **Install MySQL**, then proceed to next step.

18. Enter **MySQL Port Number** and **Database administrator password** details for your new MySQL database and press **Enter**.

The second MySQL configuration screen is displayed.

19. Enter the following information for your new MySQL database:
    - **MySQL CMS Database Name**
    - **User ID**

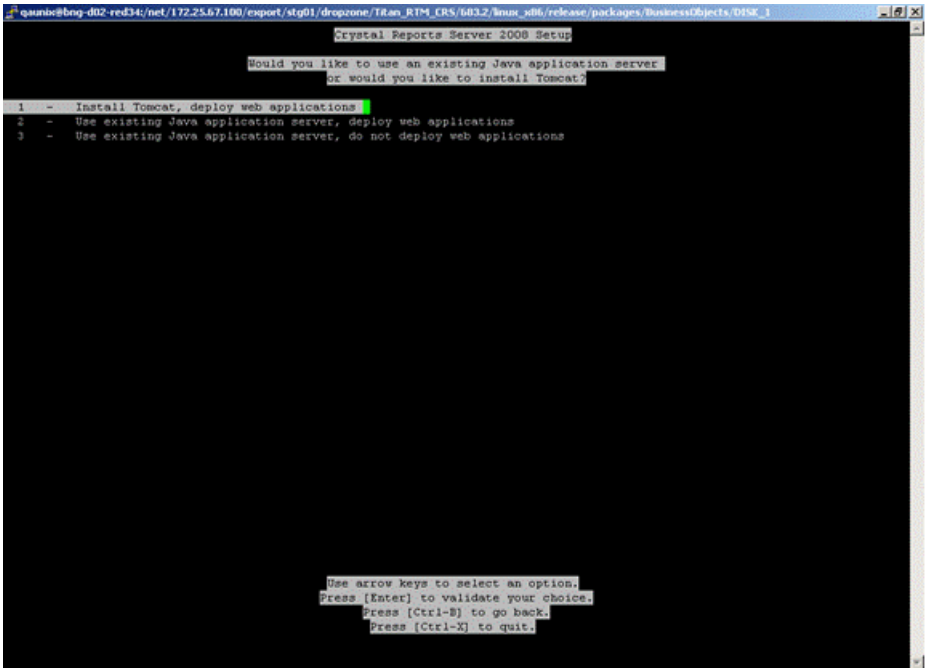
      Note: This is the Crystal Reports Server user account.

    - **Password for user account**
20. Press **Enter**.
21. Press **Enter**.

    The "Enter Server Intelligence Agent information" screen is displayed.
22. Enter a name in **Server Intelligence Agent Node**.

    Do not use spaces, dashes or periods in the node Name.

    This node name serves as an identifier for the SIA.
23. Enter a valid port number under **Server Intelligence Agent Port** or accept the default port number - 6410 and press **Enter**.
24. Select one of the web application server configuration options listed below and press **Enter**.
    - Install Tomcat, deploy web applications
    - Use existing Java application server, deploy web applications
    - Use existing Java application server, do not deploy web applications



If you choose Install Tomcat, deploy web applications option, the "Please enter port numbers for the Tomcat installation" screen is displayed and you can proceed to next step. If you choose to use the existing Java application server, see the section *Configuring your existing web application server* on page 55

25. Choose to accept the default port numbers or provide new values for the following:
    - Receive HTTP requests
    - Redirect jsp requests
    - Shutdown hook
26. Press **Enter**.
27. Review the installation directory specified on the screen.

    Note: To modify the directory you need to press **[Ctrl-B]** several times until you reach the screen where you specify the installation directory.

28. Press **Enter** to start the installation.

    The installation program will validate your system and installs Crystal Reports Server 2008 in the specified directory.

When the new installation is finished, the setup program starts the servers as daemons and then enables each server that is registered with the CMS. To control the servers manually, use the `ccm.sh` script.

Configuring the existing database server

The "Select the database type for your new CMS" screen appears if you choose to use an existing database server as the CMS for the new installation of Crystal Reports Server 2008.

To configure the existing database server, follow the steps mentioned below:

1. Select your database type. You can choose from the following list:
   - MySQL
   - Oracle
   - DB2
   - Sybase
2. Provide all the required information about your database.

   The table below summarizes all the information required for each database type:

Database type	Information required at install time
MySQL	• Database: MySQL database name • Server: MySQL server name • Port: default port is 3306 • Login credentials used to access database

Database type	Information required at install time
Sybase	• Server: Sybase Server Name • Login credentials used to access database **Note:** The Sybase server name is a combination of the host-name and the port number which is set by your database administrator in the file sql.ini.
DB2	• Server: DB2 database alias • Login credentials used to access database
Oracle	• Server: tnsnames connect identifier • Login credentials used to access database

3. Decide if you want to reinitialize the database and press **Enter**.

   Note: Reinitialization of the Crystal Reports Server database will erase all previous content in that particular database.

   After configuring your CMS, you are prompted for information on the Server Intelligence agent.

Note:

For System installation, if you are using an existing database, then you need to source your database environment variable so the CMS can access it after a system reboot. This can be done by one of two ways:

- Someone with root access can modify the Crystal Reports Server script `BobjEnterprise120` and add the command to source your database environment. This script can be found at the following location: `<IN`

STALLDIR>/bobje/init/BobjEnterprise120. This method will source the database environment variable for all users.

- Each user can modify their own profile and add the command to source their database environment. This method must be done by each user.

After performing all the above mentioned steps, go back to *Performing new installation of Crystal Reports Server 2008* on page 46, and continue the installation procedure.

Configuring your existing web application server

You must select the "Use existing Java application server, deploy web applications" option to view the "Select a Web Application Server to deploy to" screen.

Select the server type before configuring your web application server.

1. Select your existing web application server from one of the following options and press **Enter**.
   - Tomcat 5.5
   - WebLogic 10
   - WebLogic 9
   - WebSphere 6.1
   - Oracle Application Server 10g R3
   - Other

   If your existing web application server is SAP Application Server 7.0 or JBoss 4.04, select **Other**.

   If you select one of the supported servers, you can configure the server on a separate screen.

2. Provide the requested configuration details for your web application server and press **Enter**.

   The table below summarizes the information required for each supported web application server.

Web application server	Information required for installation setup
Apache Tomcat 5.5	• Instance to install to: Name of the current web application server instance (for example “localhost”). • Application server Installation directory: The directory where the web application server is installed (for example `<INSTALLDIR>/wdeploy/appserver/Tomcat5520`).
WebLogic 10	• Admin port: Administration port of the application server - mandatory for Weblogic (for example “7001”). • Admin port: Administration port of the application server - mandatory for Weblogic (for example “7001”). • Admin password: Password for account with administration rights to the application server - mandatory for Weblogic. • Instance to install to: Name of the current web application server instance (for example “ mserver1”). • Application server Installation directory: The directory where the web application server is installed (for example `/bea/weblogic10/user_projects/domains/base_domain`). **Note:** For WebLogic the directory is the domain root.

Web application server	Information required for installation setup
WebLogic 9	• Admin port: Administration port of the application server - mandatory for Weblogic (for example “7001”). • Admin login: User name with administration rights to the application server - mandatory for Weblogic. • Admin login: Password for account with administration rights to the application server - mandatory for Weblogic. • Instance to install to: Name of the current web application server instance (for example “ mserver1”). • Application server Installation directory: The directory where the web application server is installed (e.g `/bea/user_projects/domains/base_domain`). **Note:** For WebLogic the directory is the domain root.

Web application server	Information required for installation setup
WebSphere 6.1	• Admin port: RMI Registry port for application server administration. If not set, the default SOAP port will be used (for example “8880”). • Admin login: User name with administration rights to the WebSphere application server. • Admin password: Password for account with administration rights to the application server. • Instance to install to: Name of the current web application server instance (for example "server1"). • Virtual host: The virtual host to which the application must be bound. • Admin is secure (y/n): Select this option to enable security requiring administrative access credentials to the application. **Note:** If Admin is secure is not selected you do not need to specify a username or a password. • Application Server Installation Directory: The directory where the web application server is installed (for example `/IBM/WebSphere/AppServer`).

Web application server	Information required for installation setup
Oracle Application Server 10g R3	• Admin port: Administration port of the application server - mandatory for Oracle 10g R3 (for example “6003”) .This should be the Request port of the <notifi-cation-server> element in the `opmn.xml` file. • Admin login: User name with administration rights to the application server - mandatory for Oracle 10g R3. • Admin password: Password for account with administration rights to the application server - mandatory for Oracle 10g R3. • Admin is secure (y/n): Select this option only if you want Secure Sockets Layer (SSL) as part of the deployment. **Note:** If Admin is secure is not selected, you will still have to specify the username and password to access the server. • Instance to install to: Name of the current web application server instance (for example "home"). • Application server Installation directory: The directory where the web application server is installed (for example `/product/10.1.3/OracleAS_1`). • Server Name: Name of the target application server (for example "myserver.domain.com"). • Group Id: Name of the server group to which the target application belongs (for example "Default_group").

Related Topics

- *Performing new installation of Crystal Reports Server 2008* on page 46

Finishing a system installation

If you chose to perform a system installation, the setup program script prompts you to run the `BobjEnterprise120` script after it is finished. The `BobjEnterprise120` script copies the run control scripts to your `/sbin/rc#` directories. When implemented, these run control scripts to start/stop the Crystal Reports Server 2008 servers on system startup/shutdown.

Note: To run the system installation, you must login using a normal account. After installation, however, you must have root privileges to run the `setupinit.sh` script. This script copies the `BobjEnterprise120` to the `/sbin/rc#` directory.

Silent installation of Crystal Reports Server 2008

chapter 4

Overview of silent installation

There are two methods for running Crystal Reports Server 2008 installation directly from the command line:

- Silent installation with a response file, referred to as a scripted installation in this guide
- Silent installation by specifying parameters directly on the command line

Both methods can be used to automate installations across multiple machines. The scripted installation method requires you to specify a response file. The silent installation allows you to specify parameters for running the `./install.sh` command.

Note: These installation types are particularly useful when you need to perform multiple installations, as you can save time and avoid being prompted for information by the installation setup program. You can also integrate the scripts and commands into your own installation scripts.

Related Topics

- *Running a scripted installation* on page 63
- *Scripted installation parameters* on page 64

Performing a scripted installation

While setting up an installation process on Linux, you can write installation settings to a specified response file. The file is generated once the installation setup program is ready to start the installation.

Tip: You do not start the installation process to generate the response file. Select `Ctrl-X` to abort the installation setup once you reach the final screen in the installation setup program.

Creating a response file

1. Mount the device that contains the installation files.

Note: If you run the installation script without copying the files to a temporary location, you will be prompted to specify a temporary location for the installation.

2. Type the following command in the command-line:

   ```
   ./install.sh -w responseFilePath
   ```

   Note: While specifying `responseFilePath`, make sure you include the name of the file you want to generate.

3. Press **Enter** to launch the installation setup program.
4. Follow the onscreen instructions to enter the preferred installation settings until you reach the final screen of the setup program.

   These settings are recorded in the response file.

5. Press **[Ctrl-X]** to abort the installation setup once you reach the final screen in the installation setup program.

   You can access the response file from the directory you specified in step 2.

Running a scripted installation

You need to have a response residing in a known directory. The `MACHINE NAME` parameter must be specified in the response file if you are replicating an installation. If the parameter is not specified, the local server name will be used by default.

1. Mount the device that contains the installation files.

   Note: If you run the install script without copying the files to a temporary location, you will be prompted to specify a temporary location for the install.

2. Type the following command in the command-line :

   ```
   install.sh -r <path of response file> -i <installDir>
   ```

   - `-r <filepath>`: Specifies the path of the response file you want the installation setup to read for installation parameters.
   - `-i <INSTALLDIR>`: Specifies the installation directory for the scripted installation.

3. Press **Enter** to launch the installation.

Scripted installation parameters

The table below lists the most common parameters used in Crystal Reports Server installation scripts. These parameters are saved in a file which is used to run scripted installations of Crystal Reports Server on Linux. To change the listed parameters, it is recommended that you create a new response file using `./install.sh` and the -w parameter.

Parameter	Description
MACHINE NAME	Name of the machine on which to run the scripted installation. The setting overrides the local server name. If not specified, the local machine name is used. `MACHINENAME="mymachine"`
BOBJEDIR	Path of the bobje directory automatically setup in the installation directory. `BOBJEDIR="<INSTALLDIR>/bobje/"`
CDDIR	Path to the DISK_1 directory on the distribution CD. This path defaults to the CD directory. `CDDIR="<CD>/BusinessObjects/DISK_1"`
LICENSEDIR	Path to the directory containing the product license. `LICENSEDIR="<INSTALLDIR>/<LICENSEDIR>/"`

Parameter	Description
BOBJELANG	The language setting used for the installation setup. • en=English • chs=Simplified Chinese • cht=Traditional Chinese • de=German • es=Spanish • ko=Korean • nl=Dutch • jp=Japanese • pt=Portuguese • sv=Swedish • ru=Russian • fr=French `BOBJELANG="en"`
BOBJELI CENSEKEY	Specifies the product activation keycode for the product to be installed. `BOBJELICENSEKEY=XXXXX-XXXXXXX-XXXXXXX`
PIDKEY	The product id key - same as the BOBJELICENSEKEY `PIDKEY =XXXXX-XXXXXXX-XXXXXXX`
INSTALL TYPE	Specifies the type of installation to perform `INSTALLTYPE="new"`
IN STALLMODE	Specifies a comma-delimited list for the Crystal Reports Server installer operating modes. This parameter supports the following options: • install • remove • integrated • interactive `INSTALLMODE=interactive,install`

Parameter	Description
LOCALNAMESERVER	Specifies the name of the local server. `LOCALNAMESERVER="myservername"`
BOBJEINSTALLLOCAL	Specifies to perform either a user or system installation. `BOBJEINSTALLLOCAL="user"`
-g	Specifies the language packs to install. Each language pack is specified in the short format and is separated by a space. • en=English • chs=Simplified Chinese • cht=Traditional Chinese • de=German • es=Spanish • ko=Korean • nl=Dutch • jp=Japanese • pt=Portuguese • sv=Swedish • ru=Russian • fr=French `-g ="en,fr"`
BOBJEUSERNAME	Specifies the Crystal Reports Server username. `BOBJEUSERNAME="username"`
INSTALLTOMCAT	Specifies to either install or not to install Tomcat. `INSTALLTOMCAT="yes"`
CONNECTORPORT	Specifies the connection port for the Tomcat server. `CONNECTORPORT="15037"`
REDIRECTPORT	Specifies the redirection port for the Tomcat server. `REDIRECTPORT="15034"`

Parameter	Description
SHUTDOWN PORT	Specifies the shutdown port for the Tomcat server. `SHUTDOWNPORT="15024"`
AS_DIR	Specifies the path of the application server directory if the server is being installed. The path is automatically set using the installation directory. `AS_DIR="<INSTALLDIR>/bobe/tomcat/"`
AS_SERVER	Specifies the name of the application server being installed. • Use `tomcat55` for Tomcat • Use `oas1013` for Oracle Application Server 10g R3 • Use `weblogic9` for WebLogic 9 • Use `weblogic10` for WebLogic 10 • Use `websphere6` for WebSphere 6.1 `AS_SERVER="tomcat55"`
AS_IN STANCE	Specifies the name of the current web application server instance. `AS_INSTANCE="localhost"`
AS_VIRTU AL_HOST	Specifies virtual host to which the application must be bound. `AS_VIRTUAL_HOST="hostname"`
AS_AD MIN_PORT	Specifies the port used by the web application server. `AS_ADMIN_PORT="8080"`
AS_AD MIN_USER NAME	Specifies the account name used by the administrator to access the web application server. `AS_ADMIN_USERNAME="admin"`
AS_AD MIN_PASS WORD	Password used by the administrator account to access the web application server. `AS_ADMIN_PASSWORD="pass"`

Parameter	Description
AS_ADMIN_IS_SECURE	Specifies is administrator credential must be passed to access the web application server. This setting only valid for Web-Sphere 6 and Oracle. `AS_ADMIN_IS_SECURE="true"`
WDEPLOYACTION	Specifies the action to perform on the application server. The available options are: • deploy • predeploy • none `WDEPLOYACTION="deploy"`
CMSCLUSTER	Specifies whether or not to cluster to an existing CMS. `CMSCLUSTER="no"`
CLUSTER_NAMESERVER	If clustering to a CMS, specifies the name of the CMS . `CLUSTER_NAMESERVER="name"`
CLUSTERPORTNUMBER	If clustering to a CMS, specifies the port number used by the CMS. `CLUSTERPORTNUMBER="6400"`
DBTYPE	Specifies the type of database used by the CMS. The available options are: • MySQL • DB2 • Oracle • Sybase `DBTYPE="MySQL"`
SERVICENAME	Specifies the service name for the CMS. `SERVICENAME="BOE953"`

Parameter	Description
DATABASEUID	Specifies the username used to connected to the database. `DATABASEUID="username"`
DATABASEPWD	Specifies the password used to connected to the database. `DATABASEPWD="password"`
CMSNAMESERVER	Specifies the name of the CMS server. `CMSNAMESERVER="servername"`
CMSPORTNUMBER	Specifies the port number used to communicate with the CMS. `CMSPORTNUMBER="14000"`
CMSPASSWORD	Specifies the password used to connect to the CMS. `CMSPASSWORD="password"`
SIANODENAME	Specifies the node name for the Server Intelligence Agent (SIA). `SIANODENAME="name"`
SIAPORTNUMBER	Specifies the port used by the Server Intelligence Agent. `SIAPORTNUMBER="14090"`
REINIT	Specifies to or not to reinitialize the database. `REINIT="yes"`
INSTALLMYSQL	Specifies to or not to install MySQL as the system database. `INSTALLMYSQL"yes"`

Parameter	Description
SERVICE PORT	Specifies the port number used to communicate with the MySQL database. `SERVICEPORT="15036"`
MYSQLY HOSTNAME	Specifies the name of the server hosting the MySQL database. `MYSQLYHOSTNAME="servername"`
MYSQLROOT PWD	Specifies the root password for the MySQL database. `MYSQLROOTPWD="password"`

Other automatically generated parameters

The following parameters are automatically generated and must not be modified in the `.ini` file:

Parameter name
PRODUCTID_NAME
BOBJEVERSION
PRODUCTID_VER
FUNCTION
LANGUAGES_TO_INSTALL
EXPANDSERVERS

Related Topics

- *Creating a response file* on page 62

Performing a silent installation

You can run a silent installation from the command-line to automatically install Crystal Reports Server on any machine in your system, without the installation program prompting for information during the installation. To

install silently, run the `./install.sh` script, adding parameters that provide information for installation settings and directory paths.

This type of installation is particularly useful when you need to perform multiple installations. You can also use the silent installation script in your own scripts. For example, if your organization uses scripts to install software on machines, you can add the silent Crystal Reports Server installation command to your scripts.

The silent installation command consists of the `./install.sh` script, followed by the location of the installation executable file, and a number of parameters that provide information about the installation. For example, the following example will perform an English new user installation with the following configuration:

- Crystal Reports Server
- Tomcat
- MySQL
- Database reinitialized

```
./install.sh -c en -INSTALLDIR /program/business/
boe_120 -BOBJELICENSEKEY 00000-0000000-0000000-0000
-BOBJEINSTALLLOCAL user -INSTALLTYPE new -CMSPORTNUMBER 13888
-DBTYPE MySQL -SERVICENAME boe -INSTALLMYSQL yes -DATABASEUID
username -DATABASEPWD sa -REINIT yes -MYSQLROOTPWD sa
-INSTALLTOMCAT yes -TOMCATCONNECTORPORT 13890 -TOMCATREDIRECT
PORT 13889
-TOMCATSHUTDOWNPORT 13891
```

Note: The example uses the most common parameters. You can choose any number of valid parameters, but it is good practice to keep the silent installation as simple as possible.

Note that, when you run a silent installation, you need to run the command once for each CD, but you only need to provide the full list of options for the first CD. For example, if the CDs are on different drives, the commands can look like the following:

```
./install.sh -s /mnt/cd1 -INSTALLDIR /mymachine/
BOBJ/Enterprise120 -BOBJELICENSEKEY 00000-0000000-0000000-0000
-INSTALLTYPE new -BOBJEINSTALLLOCAL user -CMSPORTNUMBER 6401
-DBTYPE Oracle -SERVICENAME tnsname -DATABASEUID userid
-DATABASEPWD password -REINIT yes -INSTALLTOMCAT yes
-TOMCATCONNECTORPORT 8080 -TOMCATREDIRECTPORT 8443
-TOMCATSHUTDOWNPORT 8005

./install.sh -s /mnt/cd2 -INSTALLDIR /mymachine/BOBJ/Enter
prise120
./install.sh -s /mnt/cd3 -INSTALLDIR /mymachine/BOBJ/Enter
prise120
```

Note: Parameter values are case-sensitive.

Installation parameter	Description
-sfilepath	The location of the CD used to run the installation. Replace filepath with the full path for the CD drive or other installation source directory. For example, `-s/mnt/CD1/`
-INSTALLDIR filepath	Specifies the directory where you want to install the new Crystal Reports Server components. Replace filepath with the full path for the installation directory. For example, `-INSTALLDIR/BOBJE/Enterprise120`.
-BOBJELICENSEKEY 00000-0000000-0000000-0000	Required to activate the product license for your product.
-clanguage code	This option determines the language for the installation. Replace languagecode with a language code for one of the supported languages: • en=English • zh_CN=Simplified Chinese • zh_TW=Traditional Chinese • de=German • es=Spanish • ko=Korean • nl=Dutch • jp=Japanese • ru=Russian • fr=French
-SIANODENAME	Specifies the Server Intelligence Agent (SIA) node name to use for the installation.
-SIAPORTNUMBER	Specifies the port used by the SIA.
-INSTALLTYPE	Specifies the type of installation.

Installation parameter	Description
-xmymenu.xml	This parameter is followed by a comma-separated values (CSV) string of features that you do not want to install. Note that this cannot be used in combination with the -f option. See the `mymenu.xml` file in the setup directory on DISK_1 for a full list of features.
-f	This parameter is followed by CSV string of features that you want to install. Note that this cannot be used in combination with the -x option. See the `mymenu.xml` file in the setup directory on DISK_1 for a full list of features.
-ENABLEMP	Specifies which specific products to manually enable. Each product must be separated by a comma.
-BOBJEINSTALLLOCAL	Specifies whether to perform a user or a system installation. The options are user or system; user is the default.
-DBTYPE	When installing a Central Management Server, you need to specify the type of database you want to use. Possible values include: • Oracle • DB2 • Sybase • MySQL
-INSTALLMYSQL	When installing a Central Management Server, you can specify whether or not to install and configure a new MySQL database. The options are yes or no; no is the default.
-MYSQLHOSTNAME	Specifies the name of the machine hosting the MySQL server.

Installation parameter	Description
-SERVICENAME	Specifies the service name used to connect to the Central Management Server database.
-SERVICEPORT	Specifies the port number used to connect to the Central Management Server database. This is required only for MySQL databases.
-DATABASEUID	Specifies the user ID used to connect to the Central Management Server database. This option cannot be set to root if the -INSTALLMYSQL option is set to yes.
-DATABASEPWD	Specifies the password used to connect to the Central Management Server database. If this option is not specified, it defaults to blank.
-MYSQLROOTPWD	Specifies the password used for the root account when setting up the database. When the -INSTALLMYSQL option is set to `yes`, you must also specify the -MYSQLROOTPWD option.
-REINIT	Specifies whether to reinitialize the Central Management Server database. The options are `yes` or `no`;`yes` is the default.
-INSTALLTOMCAT	Specifies if Tomcat is to be installed as the web applications server. The default value is `no`.

Installation parameter	Description
-TOMCATCONNECTORPORT	The port number that Tomcat uses to connect. The default is 8080.
-TOMCATREDIRECTPORT	The port number that Tomcat uses to redirect. The default is 8443.
-TOMCATSHUTDOWNPORT	The port number that Tomcat uses to shut down. The default is 8005.

After installing Crystal Reports Server 2008

chapter 5

Using ccm.sh to start the Crystal Reports Server 2008 servers

The `ccm.sh` script provides you with a command-line interface to the various Crystal Reports Server 2008 server components. For more information about this script and others that are installed on your system, see the *BusinessObjects Enterprise Administrator's Guide*.

In Crystal Reports Server, the installation setup program starts and enables servers automatically.

Manually starting and enabling servers

1. Go to the `bobje` directory that was created by the installation:

   ```
   cd <INSTALLDIR>/bobje
   ```

2. Start the Server Intelligence Agent (SIA) by typing the following command:

   ```
   ./ccm.sh -start sia
   ```

3. Open a web browser to the URL of your Central Management Console (CMC) deployment on your web application server. For example

   ```
   http://<SERVERNAME>:<PORTNUMBER>/CmcApp
   ```

4. Log on to the CMC by providing your Crystal Reports Server Administrator credentials.
5. Navigate to the "Servers" page.
6. Select the server you want to start.
7. Select Start Server.

The server will now be started.

Post install component deployment

When you install Tomcat as part of your Crystal Reports Server installation, Crystal Reports Server web applications (e.g. InfoView, CMC) is installed, configured, and deployed.

InfoView is a web-based interface that end users access to view, schedule, and keep track of published reports. The Central Management Console (CMC) allows you to perform user and server management tasks such as setting up authentication, starting servers, and adding users and groups.

If you do not install Tomcat when you install Crystal Reports Server, these components must be configured and deployed before you use them. You can either deploy the components manually or use the wdeploy tool.

For more information about the system architecture of an installation of Crystal Reports Server, see the architecture chapter of the *BusinessObjects Enterprise Administrator's Guide*.

Note: If you have a firewall between the machine running your web application server and your other Crystal Reports Server 2008 servers, you must perform additional system configuration. See the section on how to configure firewalls, in the *BusinessObjects Enterprise Administrator's Guide*.

Language packs on Linux

chapter 6

About language packs

A language pack is a resource package that gives a Crystal Reports Server 2008 system the ability to interact with users in a specific language. An individual language is known as a locale.

You can install as many different language packs as you want. The English language pack is installed by default.

English language fall-back

In the event of a localization error, such as a missing, corrupted, or uninstalled language pack, Crystal Reports Server products fall back to using the default English language. If a preferred language is not set in the Product Locale drop-down, Crystal Reports Server defaults to using the locale of the installed operating system. If a language pack corresponding to the locale of the operating system is not found, the default English language pack is used.

Product locale changes

Product locale changes are immediately reflected in the current product's interface, reports, and help. Where multiple client applications are installed, the selected product locale is displayed only when the client is started next. For example, setting the Crystal Report Designer product locale to Japanese causes the Business Intelligence Modeler client to display in Japanese. However, if the Business Intelligence Modeler is running at the time of the change, it must be restarted for the change to take effect.

Selecting a language

Once installed, Crystal Reports Server products detect the existence of the language packs, and users can choose a language from a list of installed language packs found in the Product Locale drop-down list of the CMC Preferences section of the CMC Preferences, or under the Options dialog box on the toolbar or application menu in other Crystal Reports Server products. Command-line utilities use the `LANG` environment variable to determine which language to use.

Each language listed in the Product Locale drop-down is displayed in its native localization, rather than the currently employed language. For example, the German language pack is always displayed as Deutsch, rather than as German in English or Allemand in French.

Note: Application shortcut keys are language neutral and do not change, regardless of which language is in use. For example, `Ctrl+S` is always mapped to the Save command, regardless of the localized name for the Save function.

Installing language packs on Linux systems

Language packs can be installed either during the initial installation of Crystal Reports Server, or after installation by using a dedicated language pack installer. The installer is a single executable that adds the localized language resources to your Crystal Reports Server software deployment.

English is the default option during the installation of Crystal Reports Server. However, administrators can opt to install any or all other supported languages. Additional languages can also be installed on an existing system by downloading the appropriate language pack from the Business Objects support website at: *http://technicalsupport.businessobjects.com*

In the event of an operational problem with a language pack, Crystal Reports Server defaults to English localization. Hence, English cannot be deselected as an installable option during the installation of Crystal Reports Server 2008.

Note: An error message is displayed if a language pack detects that it is incompatible with a previously installed version of Crystal Reports Server.

Locating language packs

Language packs can be found in the `langs` folder of the Crystal Reports Server distribution package.

Alternatively, language packs can be downloaded from the Business Objects technical support site at: *http://technicalsupport.businessobjects.com*

Installing language packs

Before installing a language pack, ensure that Crystal Reports Server is running and patched to the required revision level. You are prompted for CMS administrator credentials. If any part of the Crystal Reports Server deployment is not patched to the required software version, the language pack installation terminates. You can install the language pack after the system is patched to the correct level. Review the requirements for language packs at the Business Objects customer support site: *http://support.businessobjects.com/documentation/supported_platforms*

Note: Language packs do not require a keycode.

1. Open the Central Management Console (CMC) and ensure that the server processes are running.
2. Locate the language pack to install under `BUSINESS_OBJECTS_INSTALL_CD_DIR/langs/LANGUAGE/DISC_1`.

   Replace LANGUAGE with the ISO code of the language you are installing.
3. Run the `install.sh` script with the first argument set to the location of the Crystal Reports Server installation directory.

   For example: `install.sh /opt/bobj`
4. Press **y** to accept the license agreement.
5. Enter the CMS hostname, port number, and administrator password into the labeled fields and press **Enter**.
6. Press **Enter** after you have confirmed the location of the Crystal Reports Server install directory.

The language pack installation begins.

Once the installation is complete, you can select the installed language from the Options dialog window in Crystal Reports Server applications.

Note:

- All fix packs or other updates to Crystal Reports Server released on a date after the language pack release date must be re-applied to ensure that updated functionality is maintained.
- Language packs must be re-installed after you have added or removed a component from the Crystal Reports Server deployment.

Installing language packs across a Crystal Reports Server deployment

You can install language packs with one command by specifying parameters on the command-line. This is referred to as a silent installation. When parameters are supplied at the command-line, the installation does not prompt for information.

The command-line syntax for a silent install is as follows:

```
install_langpack.sh CRYSTAL_REPORTS_SERVER_HOME_DIR
INSTALLMODE=silent
CMSNAMESERVER=CMS_HOSTNAME
CMSPORTNUMBER=PORT_NUMBER
CMSPASSWORD=CMS_PASSWORD
```

Replace `CRYSTAL_REPORTS_SERVER_HOME_DIR` with the full path of your Crystal Reports Server installation. The following table discusses each of the other parameters used by `install_langpack.sh`:

Table 6-1: Command-line parameters description

Parameter	Expected argument	Description
`INSTALLMODE`	silent	Switch to enable silent install mode
`CMSNAMESERVER`	CMS Hostname	Enter the name of your CMS machine
`CMSPORTNUMBER`	Port number for CMS	CMS port number
`CMSPASSWORD`	CMS admin password	The password for your CMS server

For example:

```
$ ./install_langpack.sh /opt/bobje
INSTALLMODE=silent
CMSNAMESERVER=myserver1
CMSPORTNUMBER=6400
CMSPASSWORD=mypassword
```

To uninstall language packs in silent mode, use the `wdeploy undeployall` command to remove all web applications, then `wdeploy deployall` to re-deploy web applications without the language packs.

For example, the following command runs `undeployall` for a WebLogic 10 server:

```
wdeploy.sh weblogic10
-Das_dir=/opt/bea/user_projects/domains/base_domain
-Das_admin_port=7001
-Das_instance=AdminServer
-Das_admin_username=weblogic
-Das_admin_password=weblogic
undeployall
```

Followed by:

```
wdeploy.sh weblogic10
-Das_dir=/opt/bea/user_projects/domains/base_domain
-Das_admin_port=7001
-Das_instance=AdminServer
-Das_admin_username=weblogic
-Das_admin_password=weblogic
deployall
```

For more information on using wdeploy, see the "How to use wdeploy" section.

Uninstalling language packs

1. Open the Central Management Server (CMS) and ensure that all servers are running.
2. From the installation directory run `./AddOrRemovePrograms.sh`.

   The "Add or Remove Programs" screen is displayed which prompts for "Choose product to modify" and also lists the available installed language packs.
3. Select the language pack and press **Enter**.

The "Enter information for existing CMS" screen is displayed.

4. Enter the **Existing CMS Administrator Password** and press **Enter**.
   A confirmation screen is displayed.
5. Select **Yes** and press **Enter**.
   The uninstallation process begins.

Client Tools installation for Crystal Reports Server 2008

chapter 7

Overview of Client Tools installation

The Crystal Reports Server 2008 client applications are available for installation through a separate installation program. You can use this stand-alone installer to add client tools and their related components to an existing installation.

The Client Tools installation program enables you to select which client tools to install and to assess disk space costs.

Crystal Reports Server 2008 client components

The following Crystal Reports Server 2008 client components are available for installation:

Component	Description
Business View Manager	Enables you to design relational views of information that provides a wide range of capabilities for creating and modifying Data Connections, Dynamic Data Connections, Data Foundations, Business Elements, and Business Views.
Data Source Migration Wizard	Allows you to migrate reports that are based on Crystal queries, dictionaries, and InfoViews to a Crystal Reports Server 2008 deployment.
Diagnostic Tool	The Deployment Diagnostic Tool is a Java-based application designed to verify basic operating functionality of a Crystal Reports Server 2008 installation. It is an open-framework utility that allows for the development of additional test drivers through the use of various SDKs provided by Business Objects.
Import Wizard	Allows you to import and export content from previous and current versions of Crystal Reports Server.
Publishing Wizard	Enables users to add reports to Crystal Reports Server 2008.

Performing client tools installation

To perform Crystal Reports Server 2008 Client Tools installation:

1. Unless Autorun is enabled for the CD-ROM drive, run `setup.exe` from the root folder of the product distribution.

   The "Open file: Security Warning" dialog box appears with the message: "Do you want to run this file?"

2. Click **Run**.

   The "Crystal Report Server 2008 Client Tools Setup" window appears.

3. Select the language for the installation setup from the drop-down list.

   The "Welcome to the Crystal Reports Server 2008 Client Tools Installation Wizard" screen appears.

4. Click **Next** to proceed with the installation.

   Note: Click **Cancel** to terminate the installation.

   The "License Agreement" screen is displayed.

5. Select **I accept the License Agreement**, and click **Next**.

The "Choose Language Packs" screen is displayed.

6. Select the Language Packs you want to install with the client tools, and click **Next**.

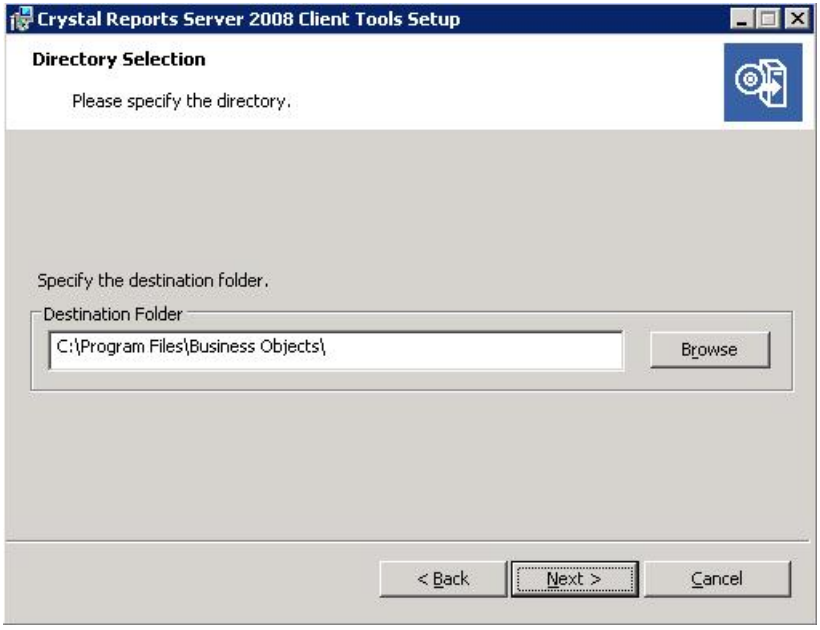
   The language packs currently available for installation include:

   - English
   - French
   - Japanese
   - German
   - Spanish
   - Italian
   - Chinese Simplified
   - Chinese Traditional
   - Korean
   - Dutch
   - Swedish
   - Portuguese (Brazil)

   Note: English is a required language and is automatically selected.

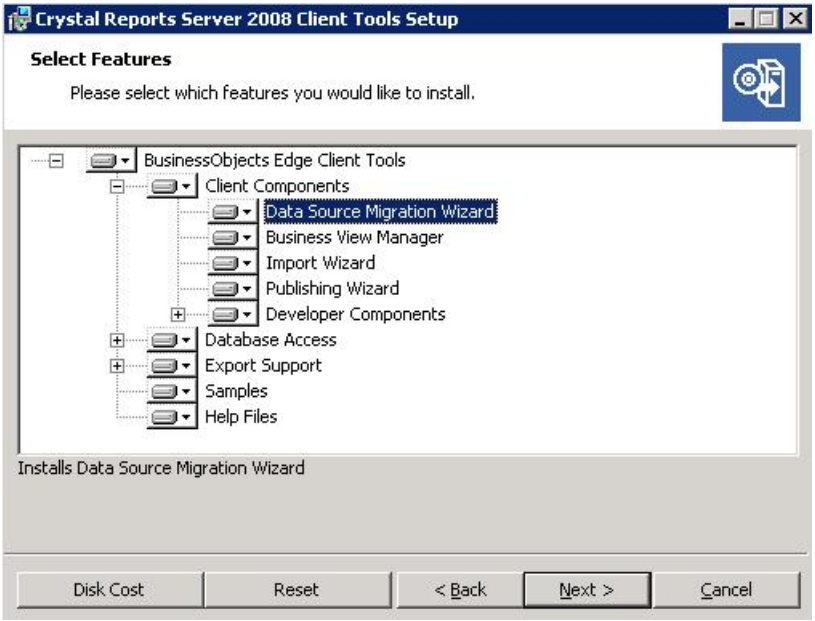
   Tip: Select the **All Languages** box to select all the available language packs.

   The "Directory Selection" screen is displayed.



7. Specify the installation directory for the client tools in **Destination Folder**, and click **Next**.

   The "Select Features" screen is displayed.



8. Select the feature you want to install, under the "Crystal Reports Server 2008 Client Tools" node.

   Note: Click '**+**' to expand the node.

   You can do any of the following:

   - Specify that the selected feature must installed on the local hard drive.
   - Specify that the selected feature and its subfeatures must installed on the local hard drive.
   - Specify that a selected feature and its subfeatures must not be installed.

Icon	Description
	The feature and only the subfeatures you select will be installed on the local hard drive you specified in the Setup program.
	The feature and all its subfeatures will be installed on the local hard drive you specified.
	The feature or subfeature is either unavailable or will not be installed.

The following steps are optional:

a. Click **Disk Cost** to calculate if sufficient disk space is available for the selected features.

   A screen is displayed indicating storage space available on the local machine and mapped network drives. Drives that do not have enough disk space for the currently selected features are highlighted. Click **OK** to return to the "Select Features" screen.

b. Click **Reset** to revert to the original configuration of the feature list.

9. Click **Next**.

   The "Start Installation" screen is displayed.

10. Click **Next**.

    The installation process begins.

11. Click **Finish** when the installation is complete.

Client Tools silent installation

You can run the Crystal Reports Server 2008 Client Tools installation directly from the command line in one of the following ways:

- Scripted installation
- Silent installation

Both methods can be used to automate installations across multiple machines. The scripted installation method requires that you specify the `.ini` file. The silent installation allows you to specify parameters for running `setup.exe`. These installation methods are particularly useful when you need to perform multiple installations quickly. You can also integrate the scripts and commands into the installation scripts.

Note: If you pass a parameter directly at the command line, the new setting overrides any setting specified in the `.ini` file.

Sample client tools .ini file

The following installation script was generated for Crystal Reports Server 2008 Client Tools installation. The Dutch language pack was added to the default English language pack.

[OTHER]

QUIET=/qa

[INSTALL]

CLIENTLANGUAGE="EN"

DATABASEAUDITDRIVER="MySQLDatabaseSubSystem"

DATABASEDRIVER="MySQLDatabaseSubSystem"

ENABLELOGFILE="1"

INSTALL.LP.EN.SELECTED="1"

INSTALLDIR="C:\Program Files\Business Objects\"

INSTALLLEVEL="4"

WDEPLOY_LANGUAGES="en"

[FEATURES]

REMOVE=""

ADDLOCAL="All"

ADDSOURCE=""

ADVERTISE=""

This script can now be used for future silent installations by including the file name and path in the command line, as shown below:

```
setup.exe -r FILEPATH
```

Upgrading to Crystal Reports Server 2008

chapter 8

Upgrade scenario

If you are trying to install Crystal Reports Server 2008 on the machine which has previous version of Crystal Reports Server, then you must perform a new installation of Crystal Reports Server 2008. This new installation of Crystal Report Server 2008 will not override the existing previous version. You must manually import the resources from the previous version of Crystal Reports Server to Crystal Reports Server 2008 using Import Wizard tool.

Note: Upgrading to Crystal Reports Server 2008 from any of the following products is not supported:

- BusinessObjects Enterprise XI
- BusinessObjects Enterprise XI R2
- BusinessObjects Edge Series XI R2

If you try to upgrade Crystal Reports Server 2008 on top of any of these products, the installation might fail, or might not function as expected

For more information on upgrading to Crystal Reports Server 2008, see the *BusinessObjects Enterprise XI 3.0 Upgrade Guide*.

Maintaining the installation

chapter 9

Uninstalling Crystal Reports Server 2008 from Linux

Before you can remove Crystal Reports Server from your Linux machine, you must run the `AddOrRemovePrograms.sh` script. The script is installed to the directory of your installation and is used to add or remove Crystal Reports Server products or components.

This script stops all Crystal Reports Server 2008 servers and processes. It then deletes the files copied from the product CD during your original installation of Crystal Reports Server.

A Crystal Reports Server installation creates a number of additional files on your system. When you uninstall Crystal Reports Server, these additional files and any files created by the system or by users after installation will not be removed. The files that remain include log files created by Crystal Reports Server. These log files can be useful for diagnosing problems with previous installations.

Uninstalling Crystal Reports Server 2008

Before removing Crystal Reports Server 2008 from your Linux system, you must uninstall all language packs used by the installation.

To uninstall Crystal Reports Server 2008 from your system, perform the following steps:

1. From the installation directory run `./AddOrRemovePrograms.sh`.
   The "Add or Remove Programs" screen is displayed which prompts for "Choose product to modify" and also lists the available installed language packs.
2. Select Crystal Reports Server 2008 and press **Enter**.
   The "Add Features or Uninstall Current Product" screen is displayed.
3. Select **Uninstall Product** and press **Enter**.
   The "Enter information for existing CMS" screen appears.
4. Enter the **Existing CMS Administrator Password** and press **Enter**.
   The "Database Administrator password" screen appears.

5. Enter the Database administrator **Password** and press **Enter**.
   The confirmation screen appears.
6. Select **Yes** and press **Enter**.
   The uninstallation process begins.

To completely remove all Crystal Reports Server files, perform an `rm -Rf` command on the bobje directory.

If you performed a system installation, you must also delete the run control scripts from the appropriate `/etc/rc#` directories.

The installation log file

The installation log files contains information on all the parameter settings used in a Crystal Reports Server 2008 installation. The log files can be used as a reference or to troubleshoot installation errors. The name of the initial log files are `BusinessObjects.12.0.log` and `BusinessObjects.12.0.log.summary`. The `BusinessObjects.12.0.log` file contains detailed information on installation and deployment. Each time you run the Crystal Reports Server 2008 installer, a new log file is generated. For example, after the initial installation, if you install French language pack, and once the process is completed, `BusinessObjects_fr.12.0.log` is stored in the `<INSTALLDIR>/setup/logs/` directory.

Post-installation web application deployment

chapter 10

Overview of post-install deployment

You can deploy web applications for Crystal Reports Server 2008 installation by running the supported installation type. The installation setup program guides you through an automated process for deploying the web applications and their required components only if you specify and configure your web application server during the installation setup.

You can also configure your web application servers and deploy web application components after installing Crystal Reports Server. You can choose either of the following methods.

- Use the wdeploy program to automatically deploy the required components to the applications server. For detailed information on wdeploy see *Deploying BusinessObjects Enterprise Web Applications using wdeploy*.
- Manually configure and deploy the required components to the applications server.

The following table lists which deployment method is available for supported Web application server.

	Installation set-up program	wdeploy	Manual deploy-ment
WebSphere 6.1	Yes	Yes	Yes
WebSphere Community Edi-tion 2.0	No	No	Yes
WebLogic 10	Yes	Yes	Yes
WebLogic 9.2	Yes	Yes	Yes
Tomcat 5.5	Yes	Yes	Yes

	Installation set-up program	wdeploy	Manual deploy-ment
SAP Application Server 7.0	No	Yes	Yes
Oracle Applica-tion Server 10G R3	Yes	Yes	Yes
JBoss 4.04	No	Yes	Yes

Before you deploy web applications

Your web application server must be installed and working before you attempt to install Crystal Reports Server. Consult your web application server documentation for installation instructions.

To deploy and run the CMC and InfoView applications, your web application server should have at least 1.2 GB of free disk space, in addition to any other requirements specified by other software installed on the machine.

It is recommended that you change the heapsize and maximum perm size settings of your JVM to 1024m and 256m respectively. If using Tomcat for example, your modified settings would look like:

```
JAVA_OPTS="$JAVA_OPTS -Xmx1024m -XX:MaxPermSize=256m"
```

Consult your JVM documentation for more information about changing your Java memory settings.

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

```
http://<HOSTNAME>:<PORT>
```

Replace <HOSTNAME> with the host name, and <PORT> with the port number used for HTTP. Consult your web application server documentation for installation instructions.

Deploying with wdeploy

Prerequisites for using wdeploy

Where to find wdeploy

The wdeploy command-line tool is included with the Crystal Reports Server 2008 installation to assist you in the command-line deployment of web applications to the web application server. It is located in the following directory: <INSTALLDIR>/deployment/. In addition to the wdeploy.sh the folder contains all the required configuration files for running the tool.

Note: The wdeploy tool is also available as a stand-alone package on the product distribution media under the following directory: Collaterals/Tools/wdeploy.

Prerequisites for using wdeploy

To deploy Crystal Reports Server web applications to a web application server, you must have Crystal Reports Server installed, including all the required WAR files. If the target web application server is on the same machine on which Crystal Reports Server is installed, you can proceed to run the wdeploy script.

If the target web application server is hosted on a remote machine you will have to follow specific steps for preparing the wdeploy environment.

Overview for using wdeploy

The wdeploy command-line tool is included with Crystal Reports Server 2008 to assist you in the command-line deployment of WAR files to your web application server. You can choose to deploy all web application resources together on a single web application server (standalone mode), or to separate dynamic and static content for deployment onto de-paired web and web

application servers (distributed mode). For detailed information on wdeploy see *Deploying BusinessObjects Enterprise Web Applications using wdeploy*. This document is available at *http://support.businessobjects.com*.

How to use wdeploy

To use wdeploy tool, you must configure a specific configuration file for your web application server. This file is located in `<INSTALLDIR>/deployment/`. For example, the configuration file for weblogic 9.2 is `config.weblogic9`.

It is recommended that you use the same user account for installing Crystal Reports Server 2008 and your web application server. Ensure that you have the minimum user rights for the web application server.

The following table lists the required wdeploy configuration file details that must be specified for each supported web application server.

Note: Parameters specified on the command-line override parameters in the wdeploy configuration file.

Web application server	Required Configuration details
WebSphere 6.1	• as_admin_port: The SOAP Connector Port of the application server (for example "8880"). • as_admin_username: WebSphere administrator account username (for example "administrator"). **Note:** If as_admin_is_secure is false, a value for as_admin_username does not need to be specified. • as_admin_password: WebSphere administrator account password (for example "password"). **Note:** If as_admin_is_secure is false, a value for as_admin_password does not need to be specified. • as_instance: The name of your WebSphere application server instance (for example "server1"). • as_virtual_host: The virtual host to which the application must be bound (for example "default_host"). • as_admin_is_secure: Instructs `wdeploy` that WebSphere security is enabled (for example "false"). **Note:** Values for as_admin_username and as_admin_password must be set when as_admin_is_secure is true"). • as_dir: WebSphere installation directory (for example `/opt/IBM/WebSphere/AppServer`). • ws_instance: The name of the web server where the application is installed, in distributed mode (for example "server1"). • 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 ("True" by default).
WebLogic 10	

Web application server	Required Configuration details
	• as_admin_port: Administration port of the application server (for example "7001"). • as_admin_username: WebLogic administrator account username (for example "weblogic"). • as_admin_password: WebLogic administrator account password (for example "weblogic"). • as_instance: The name of your WebLogic application server instance (for example "AdminServer"). • as_dir: Weblogic domain directory (for example `/opt/bea/weblog ic10/user_projects/domains/base_domain`).
WebLogic 9.2	• as_admin_port: Administration port of the application server (for example "7001"). • as_admin_username: WebLogic administrator account username (for example "weblogic"). • as_admin_password: WebLogic administrator account password (for example "weblogic"). • as_instance: The name of your WebLogic application server instance (for example "AdminServer"). • as_dir: Weblogic domain directory (for example `<INSTALLDIR>/bea/user_projects/domains/base_domain`).
Tomcat 5.5	• as_instance : Name of the web application server instance currently used (for example "localhost"). • as_dir : Installation directory of the web application server (for example "/opt/tomcat"). • as_service_key_value: Tomcat's Java parameters, and the value of the registry key as_server_key.

Web application server	Required Configuration details
SAP Application Server 7.0	• as_dir: The location of your application server (for example <INSTALLDIR>/SAP>). • as_sid: the SAP system ID of the target instance. (for example "AS2"). • as_instance: The name of your application server instance (for example "JC01"). • as_admin port: the port number used by the server (for example "50104"). • as_admin_username: the administrator username (for example "Administrator"). • as_admin_password: the administrator password (for example "password").
Oracle Application Server 10 G R3	

Web application server	Required Configuration details
	• as_admin_port: Administration port of the application server. This is the request port of the notification server, found in the `<notification-server>` section of configuration file `opmn.xml` (for example "6003"). • as_admin_username: Oracle Application Server administrator account username (for example "ocjadmin"). • as_admin_password: Oracle Application Server administrator account password (for example "oracle10g"). • as_instance: The name of your Oracle Application Server application server instance (for example "home"). • as_admin_is_secure: Instructs `wdeploy` that Oracle Application Server SSL security is enabled (for example "false"). **Note:** If as_admin_is_secure is not enabled, you will still have to specify the username and password to access the server. • as_dir: Oracle Application Server installation directory (for example `/opt/product/10.1.3/OracleAS_1`). • as_appserver_name: Name of the target application server (for example "oracle10g.BO-AMIT.product.businessobjects.com"). • as_group_id: Name of the server group to which the target application belongs (for example "Default_group").
JBoss 4	• as_dir: The location of the JBoss application server (for example "opt/jboss-4.0.4.GA"). • as_instance: The name of the JBoss application server instance (for example "default").

Note:

Run the wdeploy script by opening command line console and typing the following:

```
<INSTALLDIR>/deployment/wdeploy.sh
    <appserver> deployall >> <logfilename>.log
```

For example:

```
wdeploy.sh weblogic9 deployall >> <TnstallDir>/mylog.log
```

Note: The <appserver> must be same as the web application server used in the configuration filename (for example, config.weblogic9).

Tip: You can drop the deployable WAR files to a non-default location by passing the parameter -Dwork_dir=your desired location, as part of the wdeploy command.

For more detailed information on wdeploy see *Deploying BusinessObjects Enterprise Web Applications using wdeploy*.

Related Topics

- *Deploying web applications on a remote machine* on page 138

Options for using wdeploy

The several actions that can be performed with the wdeploy tool to control the web application deployment process are given below:

- `predeploy/predeployall`: Predeploy web applications.
- `deployonly/depolyonlyall`: Deploy web applications.
- `deploy/deployall`: Predeploy and then deploy web applications.
- `undeploy/undeployall`: Undeploy web applications.

Note: If you use the `undeploy` and `undeployall` commands, only web applications deployed through the installer or wdeploy will be undeployed. All other web applications must be manually removed using the web application server's administrative console.

For information on all options available for wdeploy see *Deploying BusinessObjects Enterprise Web Applications using wdeploy*.

Note: The `wdeploy` command does not create a log file. To persist the output generated by wdeploy, redirect its output to a file using the `greater-than` redirect operator (>).

After deploying web applications

To verify the web application server configuration, make sure that InfoView and the Central Management Console can be launched in a web browser. For example:

- `http://WAS_HOSTNAME:PORT/INFOVIEW_CONTEXT`
- `http://WAS_HOSTNAME:PORT/CMC_CONTEXT`

Replace `WAS_HOSTNAME` with the hostname, and `PORT` with the port number used for either HTTP or HTTPS communication. The default root context used for InfoView is `InfoViewApp`; the default context used for the CMC is `CmcApp`.

Deploying to web application servers with wdeploy

Deploying to WebSphere with wdeploy

Using predeploy and predeployall

The `predeploy` command creates resources and configuration files for a specific web application, then copies the web application to `<INSTALLDIR>/deployment/workdir/WebAppServer_VERSION`, but does not deploy the web application to the web application server. The `predeployall` command performs the `predeploy` command for all web applications.

Example: Using `wdeploy predeploy` to predeploy InfoView to WebSphere

```
wdeploy.sh websphere6
-Das_dir=/opt/ibm/WebSphere/AppServer
-Das_instance=server1
-Das_virtual_host=default_host
-Das_admin_port=8880
```

```
-DAPP=InfoViewApp
predeploy
```

Example: Using `wdeploy predeployall` to predeploy all web applications to WebSphere.

```
wdeploy.sh websphere6
-Das_dir=/opt/ibm/WebSphere/AppServer
-Das_instance=server1
-Das_virtual_host=default_host
-Das_admin_port=8880
predeployall
```

Using `deployonly` and `deployonlyall`

The `deployonly` command deploys a web application that is specifically configured for the target web application server. The `deployonlyall` command performs the `deployonly` command for all web applications.

Example: Using `wdeploy deployonly` to deploy a predeployed InfoView to WebSphere.

```
wdeploy.sh websphere6
-Das_dir=/opt/ibm/WebSphere/AppServer
-Das_instance=server1
-Das_virtual_host=default_host
-Das_admin_port=8880
-DAPP=InfoViewApp
deployonly
```

Example: using `wdeploy deployonlyall` to deploy all predeployed web applications to WebSphere.

```
wdeploy.sh websphere6
-Das_dir=/opt/ibm/WebSphere/AppServer
-Das_instance=server1
-Das_virtual_host=default_host
-Das_admin_port=8880
deployonlyall
```

Using `deploy` and `deployall`

The `deploy` command creates resources and configuration files for a specific web application, which is then deployed to the web application server. The `deployall` command performs the `deploy` command for all web applications. Running `deploy` is equivalent to running a `predeploy` command followed by a `deployonly` command. Running `deployall` is equivalent to running a `predeployall` command followed by a `deployonlyall` command.

Example: Using `wdeploy deploy` to predeploy, then deploy InfoView to WebSphere.

```
wdeploy.sh websphere6
-Das_dir=/opt/ibm/WebSphere/AppServer
-Das_instance=server1
-Das_virtual_host=default_host
-Das_admin_port=8880
-DAPP=InfoViewApp
deploy
```

Example: Using `wdeploy deployall` to predeploy, then deploy all web applications to WebSphere.

```
wdeploy.sh websphere6
-Das_dir=/opt/ibm/WebSphere/AppServer
-Das_instance=server1
-Das_virtual_host=default_host
-Das_admin_port=8880
deployall
```

Using `undeploy` and `undeployall`

The `undeploy` command uninstalls a previously deployed web application from the web application server. The `undeployall` command performs the undeploy command for all web applications.

Example: Using `wdeploy undeploy` to undeploy InfoView from WebSphere.

```
wdeploy.sh websphere6
-Das_dir=/opt/ibm/WebSphere/AppServer
-Das_instance=server1
```

```
-Das_virtual_host=default_host
-Das_admin_port=8880
-DAPP=InfoViewApp
undeploy
```

Example: Using `wdeploy undeployall` to undeploy all web applications from WebSphere.

```
wdeploy.sh websphere6
-Das_dir=/opt/ibm/WebSphere/AppServer
-Das_instance=server1
-Das_virtual_host=default_host
-Das_admin_port=8880
undeployall
```

Deploying 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.

Note: This configuration requires that you use the wdeploy command to split web application resources into static and dynamic content that can be deployed to separate web and web application servers.

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://mywebserver.mycompany.com:80`.

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://myappserver.mycompany.com:9080`.

   Note: If you have any existing Crystal Reports Server 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 the requests are 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://mywebserver.mycompany.com:80/snoop/`.
6. If the web application server is installed on the same machine as Crystal Reports Server, run wdeploy locally on that machine. If the web application server runs on a different machine, you must 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 "distributed" mode.

   The wdeploy configuration files for IHS and WebSphere are located in `<INSTALLDIR>/deployment`.

   - Edit `config.apache`. For example:

     ```
     #Business Objects Configuration Utility
     ws_dir=/opt/apache
     connector_type=websphere6
     deployment_dir=/opt/apache/htdocs
     ```

   - Edit `config.websphere6`. For example:

     ```
     #Business Objects Configuration Utility
     as_admin_port=8880
     as_admin_username=admin
     as_admin_password=password
     as_dir=/opt/websphere/appserver
     as_instance=server1
     as_virtual_host=default_host
     as_admin_is_secure=false
     enforce_file_limit=true
     ```

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

For example:

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

```
wdeploy.sh websphere6 -Das_mode=distributed
    -Dws_type=apache predeployall >> wdeploy.log
```

The dynamic content of web applications is located in: `<INSTALLDIR>/deployment/workdir/websphere6/application`.

The static content is located in: `<INSTALLDIR>/deployment/workdir/websphere6/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 websphere6 -Das_mode=distributed
    -Dws_type=apache deployonlyall >> wdeploy.log
```

   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 websphere6 -Das_mode=distributed
    -deployonlyall  >> wdeploy.log
```

   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 `<INSTALLDIR>/deployment/workdir/websphere6/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 config files. For each web application, you must include an entry in

`httpd.conf`. For example, to include AnalyticalReporting, you would enter:

```
Include conf/bobj.AnalyticalReporting.conf
```

10. Propagate the `plugin-cfg.xml` file from the application server to the web server using the administrative console. Click **Servers** > **Web server**. Select the web server, then click **Propagate Plug-in**. Web servers other than IHS require manual propagation.
    - For IHS, click **Servers** > **Web server**. Select the web server, then click **Propagate Plug-in**.
    - For all other web servers, copy `plugin-cfg.xml` from the `<profile_root>/config/cells/<cell_name>/nodes/node_name/servers/<Web_server_name>` directory on the WebSphere web application server to the `<plugins_root>/config/<Web_server_name>` directory on the IHS web server.
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://mywebserver.mycompany.com:80/CmcApp/`. In this example, `mywebserver.mycompany.com:80` is the web server, and `/CmcApp/` 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.

Related Topics

- *Deploying web applications on a remote machine* on page 138

Deploying to WebLogic with wdeploy

Using predeploy and predeployall

The `predeploy` command creates resources and configuration files for a specific web application, then copies the WAR application to `<INSTALLDIR>/deployment/workdir/WebAppServer_VERSION`, but does not deploy the web application to the web application server. The `predeployall` command performs the `predeploy` command for all web applications.

Example 1: using `wdeploy predeploy` to predeploy InfoView to WebLogic.

```
wdeploy.sh weblogic9
  -Das_dir=/opt/bea/user_projects/domains/base_domain
  -Das_admin_port=7001
  -Das_instance=AdminServer
  -Das_admin_username=weblogic
  -Das_admin_password=weblogic
  -DAPP=InfoViewApp
  predeploy
```

Example 2: using `wdeploy predeployall` to predeploy all web applications to WebLogic.

```
wdeploy.sh weblogic10
  -Das_dir=/opt/bea/user_projects/domains/base_domain
  -Das_admin_port=7001
  -Das_instance=AdminServer
  -Das_admin_username=weblogic
  -Das_admin_password=weblogic
  predeployall
```

Using deployonly and deployonlyall

The `deployonly` command deploys a web application that is specifically configured for the target web application server. The `deployonlyall` command performs the `deployonly` command for all web applications.

Example 1: using `wdeploy deployonly` to deploy a predeployed InfoView to WebLogic.

```
wdeploy.sh weblogic9
  -Das_dir=/opt/bea/user_projects/domains/base_domain
  -Das_admin_port=7001
  -Das_instance=AdminServer
  -Das_admin_username=weblogic
  -Das_admin_password=weblogic
  -DAPP=InfoViewApp
  deployonly
```

Example 2: using `wdeploy deployonlyall` to deploy all predeployed web applications to WebLogic.

```
wdeploy.sht weblogic10
  -Das_dir=/opt/bea/user_projects/domains/base_domain
  -Das_admin_port=7001
  -Das_instance=AdminServer
  -Das_admin_username=weblogic
```

```
  -Das_admin_password=weblogic
  deployonlyall
```

Using `deploy` and `deployall`

The `deploy` command creates resources and configuration files for a specific web application, which is then deployed to the web application server. The `deployall` command performs the `deploy` command for all web applications.

Running `deploy` is equivalent to running a `predeploy` command followed by a `deployonly` command. Running `deployall` is equivalent to running a `predeployall` command followed by a `deployonlyall` command.

Example 1: using `wdeploy deploy` to predeploy, then deploy, InfoView to WebLogic.

```
wdeploy.sh weblogic9
  -Das_dir=/opt/bea/user_projects/domains/base_domain
  -Das_admin_port=7001
  -Das_instance=AdminServer
  -Das_admin_username=weblogic
  -Das_admin_password=weblogic
  -DAPP=InfoViewApp
  deploy
```

Example 2: using `wdeploy deployall` to predeploy, then deploy, all web applications to WebLogic.

```
wdeploy.sh weblogic10
  -Das_dir=/opt/bea/user_projects/domains/base_domain
  -Das_admin_port=7001
  -Das_instance=AdminServer
  -Das_admin_username=weblogic
  -Das_admin_password=weblogic
  deployall
```

Using `undeploy` and `undeployall`

The `undeploy` command uninstalls a previously deployed web application from the web application server. The `undeployall` command performs the `undeploy` command for all web applications.

Example 1: using `wdeploy undeploy` to undeploy InfoView from WebLogic.

```
wdeploy.sh weblogic9
  -Das_dir=/opt/bea/user_projects/domains/base_domain
  -Das_admin_port=7001
```

```
  -Das_instance=AdminServer
  -Das_admin_username=weblogic
  -Das_admin_password=weblogic
  -DAPP=InfoViewApp
  undeploy
```

Example 2: using `wdeploy undeployall` to undeploy all web applications from WebLogic.

```
wdeploy.sh weblogic10
  -Das_dir=/opt/bea/user_projects/domains/base_domain
  -Das_admin_port=7001
  -Das_instance=AdminServer
  -Das_admin_username=weblogic
  -Das_admin_password=weblogic
  undeployall
```

Related Topics

- *After deploying web applications* on page 147

Deploying 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.

Note: This configuration requires that you use the wdeploy command to split web application resources into static and dynamic content that can be deployed to separate web and web application servers.

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://mywebserver.mycompany.com:80`.

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://myappserver.mycompany.com:7001`.

   Note: If you have any existing Crystal Reports Server 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://mywebserver.mycompany.com:80/jsp-examples/`.
6. If the web application server is installed on the same machine as Crystal Reports Server, run wdeploy locally on that machine. If the web application server runs on a different machine, you must 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 "distributed" mode.

   The wdeploy configuration files for Apache and WebLogic are located in `<INSTALLDIR>/deployment`.

   - Edit `config.weblogic9` or `config.weblogic10`. For example:

     ```
     #Business Objects Configuration Utility
     as_admin_port=7001
     as_admin_username=weblogic
     as_admin_password=weblogic
     as_instance=AdminServer
     as_dir=usr/bea/user_projects/domains/base_domain
     ```

   - Edit `config.apache`. For example:

     ```
     #Business Objects Configuration Utility
     ws_dir=opt/apache224/
     connector_type=weblogic9
     deployment_dir=/opt/apache224/htdocs
     ```
8. Use wdeploy predeploy in distributed 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 weblogic9 -Das_mode=distributed
    -Dws_type=apache predeployall >> wdeploy.log
```

The dynamic content in: `<INSTALLDIR>/deployment/workdir/weblogic9/application`. Static content is located in: `<INSTALLDIR>/deployment/workdir/weblogic9/resources`.

9. Run wdeploy deployonlyall command 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 by the following command:

```
wdeploy.sh weblogic9 -Das_mode=distributed
    -Dws_type=apache deployonlyall >> wdeploy.log
```

   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 be manually deployed to the remote Apache machine afterwards.

```
wdeploy.sh weblogic9 -Das_mode=distributed
    -deployonlyall >> wdeploy.log
```

   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 `<INSTALLDIR>/deployment/workdir/WebLogic6/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 config files. For each web application, you must include an entry in `httpd.conf`. For example, to include AnalyticalReporting, you would enter:

     ```
     Include conf/bobj.AnalyticalReporting.conf
     ```

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

Related Topics

- *Deploying web applications on a remote machine* on page 138

Deploying to Tomcat with `wdeploy`

Using predeploy and predeployall

The `predeploy` command creates resources and configuration files for a specific web application, then copies the WAR application to `<INSTALLDIR>/deployment/workdir/tomcat55`, but does not deploy the web application to the web application server. The `predeployall` command performs the `predeploy` command for all web applications.

Example 1: using `wdeploy predeploy` to predeploy InfoView to Tomcat.

```
wdeploy.sh tomcat55
  -Das_dir=/opt/tomcat
  -Das_instance=localhost
  -Das_service_name=Tomcat5
  -DAPP=InfoViewApp
  predeploy
```

Example 2: using `wdeploy predeployall` to predeploy all web applications to Tomcat.

```
wdeploy.sh tomcat55
  -Das_dir=/opt/tomcat
  -Das_instance=localhost
  -Das_service_name=Tomcat5
  predeployall
```

Using deployonly and deployonlyall

The `deployonly` command deploys a web application that is specifically configured for the target web application server. The `deployonlyall` command performs the `deployonly` command for all web applications.

Example 1: using `wdeploy deployonly` to deploy a InfoView to Tomcat.

```
wdeploy.sh tomcat55
  -Das_dir=/opt/tomcat
```

```
  -Das_instance=localhost
  -Das_service_name=Tomcat5
  -DAPP=InfoViewApp
  deployonly
```

Example 2: using `wdeploy deployonlyall` to deploy all predeployed web applications to Tomcat.

```
wdeploy.sh tomcat55
  -Das_dir=/opt/tomcat
  -Das_instance=localhost
  -Das_service_name=Tomcat5
  deployonlyall
```

Using deploy and deployall

The `deploy` command creates resources and configuration files for a specific web application, which is then deployed to the web application server. The `deployall` command performs the `deploy` command for all web applications.

Running `deploy` is equivalent to running a `predeploy` command followed by a `deployonly` command. Running `deployall` is equivalent to running a `predeployall` command followed by a `deployonlyall` command.

Example 1: using `wdeploy deploy` to predeploy, then deploy, InfoView to Tomcat.

```
wdeploy.sh tomcat55
  -Das_dir=/opt/tomcat
  -Das_instance=localhost
  -Das_service_name=Tomcat5
  -DAPP=InfoViewApp
  deploy
```

Example 2: using `wdeploy deployall` to predeploy, then deploy, all web applications to Tomcat.

```
wdeploy.sh tomcat55
  -Das_dir=/opt/tomcat
  -Das_instance=localhost
  -Das_service_name=Tomcat5
  deployall
```

Using `undeploy` and `undeployall`

The `undeploy` command uninstalls a previously deployed web application from the web application server. The `undeployall` command performs the `undeploy` command for all web applications.

Example 1: using `wdeploy undeploy` to undeploy InfoView from Tomcat.

```
wdeploy.sh tomcat55
  -Das_dir=/opt/tomcat
  -Das_instance=localhost
  -DAPP=InfoViewApp
  -Das_service_name=Tomcat5
  undeploy
```

Example 2: using `wdeploy undeployall` to undeploy all web applications from Tomcat.

```
wdeploy.sh tomcat55
  -Das_dir=/opt/tomcat
  -Das_instance=localhost
  -Das_service_name=Tomcat5
  undeployall
```

Related Topics

- *After deploying web applications* on page 147

Deploying 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.

Note: This configuration requires that you use the wdeploy command to split web application resources into static and dynamic content that can be deployed to separate web and web application servers.

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://mywebserver.mycompany.com:80`.

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://myappserver.mycompany.com:8080`.

Note: If you have any existing Crystal Reports Server 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://mywebserver.mycompany.com:80/jsp-examples/`.
6. If the web application server is installed on the same machine as Crystal Reports Server, run wdeploy locally on that machine. If the web application server runs on a different machine, you must 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 "distributed" mode.

   The wdeploy configuration files for Apache and Tomcat are located in `<INSTALLDIR>/deployment`.

   - Edit `config.tomcat55`. For example:

     ```
     #Business Objects Configuration Utility
     as_dir=opt/Tomcat5520
     as_instance=localhost
     as_service_key_value=Options
     ```

   - Edit `config.apache`. For example:

     ```
     #Business Objects Configuration Utility
     ws_dir=/opt/apache224
     ```

```
connector_type=tomcat55
deployment_dir=/opt/apache224/htdocs
```

8. Use wdeploy predeploy in distributed 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.

     ```
     wdeploy.sh tomcat55 -Das_mode=distributed
         -Dws_type=apache predeployall >> wdeploy.log
     ```

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 tomcat55 -Das_mode=distributed
       -Dws_type=apache deployonlyall >> wdeploy.log
   ```

   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 tomcat55 -Das_mode=distributed
       -deployonlyall  >> wdeploy.log
   ```

   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 `<INSTALLDIR>/deployment/workdir/Tomcat55/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 config files. For each web application, you must include an entry in

`httpd.conf`. For example, to include AnalyticalReporting, you would enter:

```
Include conf/bobj.AnalyticalReporting.conf
```

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

Related Topics

- *Deploying web applications on a remote machine* on page 138

Deploying to SAP Application Server with `wdeploy`

Using predeploy and predeployall

The `predeploy` command creates resources and configuration files for a specific web application, then copies the WAR application to `<INSTALLDIR>/deployment/workdir/nw2004`, but does not deploy the web application to the web application server. The `predeployall` command performs the `predeploy` command for all web applications.

Example 1: using `wdeploy predeploy` to predeploy InfoView to SAP Application Server.

```
wdeploy.sh nw2004
  -Das_dir=/opt/sap
  -Das_instance=server1
  -Das_sid=AS2
  -Das_admin_username=Administrator
  -Das_admin_password=password1
  -Das_admin_port=50000
  -DAPP=InfoViewApp
  predeploy
```

Example 2: using `wdeploy predeployall` to predeploy all web applications to SAP Application Server.

```
wdeploy.sh nw2004
  -Das_dir=/opt/sap
  -Das_instance=server1
  -Das_sid=AS2
  -Das_admin_username=Administrator
  -Das_admin_password=password1
  -Das_admin_port=50000
  predeployall
```

Using deployonly and deployonlyall

The `deployonly` command deploys a web application that is specifically configured for the target web application server. The `deployonlyall` command performs the `deployonly` command for all web applications.

Example 1: using `wdeploy deployonly` to deploy a predeployed InfoView to SAP Application Server.

```
wdeploy.sh nw2004
  -Das_dir=/opt/sap
  -Das_instance=server1
  -Das_sid=AS2
  -Das_admin_username=Administrator
  -Das_admin_password=password1
  -Das_admin_port=50000
  -DAPP=InfoViewApp
  deployonly
```

Example 2: using `wdeploy deployonlyall` to deploy all predeployed web applications to SAP Application Server.

```
wdeploy.sh nw2004
  -Das_dir=/opt/sap
  -Das_instance=server1
  -Das_sid=AS2
  -Das_admin_username=Administrator
  -Das_admin_password=password1
  -Das_admin_port=50000
  deployonlyall
```

Using deploy and deployall

The `deploy` command creates resources and configuration files for a specific web application, which is then deployed to the web application server. The `deployall` command performs the `deploy` command for all web applications.

Running `deploy` is equivalent to running a `predeploy` command followed by a `deployonly` command. Running `deployall` is equivalent to running a `predeployall` command followed by a `deployonlyall` command.

Example 1: using `wdeploy deploy` to predeploy, then deploy, InfoView to SAP Application Server.

```
wdeploy.sh nw2004
  -Das_dir=/opt/sap
  -Das_instance=server1
  -Das_sid=AS2
```

```
  -Das_admin_username=Administrator
  -Das_admin_password=password1
  -Das_admin_port=50000
  -DAPP=InfoViewApp
  deploy
```

Example 2: using `wdeploy deployall` to predeploy, then deploy, all web applications to SAP Application Server.

```
wdeploy.sh nw2004
  -Das_dir=/opt/sap
  -Das_instance=server1
  -Das_sid=AS2
  -Das_admin_username=Administrator
  -Das_admin_password=password1
  -Das_admin_port=50000
  deployall
```

Using `undeploy` and `undeployall`

The `undeploy` command uninstalls a previously deployed web application from the web application server. The `undeployall` command performs the `undeploy` command for all web applications.

Example 1: using `wdeploy undeploy` to undeploy InfoView from SAP Application Server.

```
wdeploy.sh nw2004
  -Das_dir=/opt/sap
  -Das_instance=server1
  -Das_sid=AS2
  -Das_admin_username=Administrator
  -Das_admin_password=password1
  -Das_admin_port=50000
  -DAPP=InfoViewApp
  undeploy
```

Example 2: using `wdeploy undeployall` to undeploy all web applications from SAP Application Server.

```
wdeploy.sh nw2004
  -Das_dir=/opt/sap
  -Das_instance=server1
  -Das_sid=AS2
  -Das_admin_username=Administrator
  -Das_admin_password=password1
  -Das_admin_port=50000
  undeployall
```

Related Topics

- *After deploying web applications* on page 147

Deploying to Oracle with `wdeploy`

Using predeploy and predeployall

The `predeploy` command creates resources and configuration files for a specific web application, then copies the WAR application to `<INSTALLDIR>/deployment/workdir/oas1013`, but does not deploy the web application to the web application server. The `predeployall` command performs the `predeploy` command for all web applications.

Example 1: using `wdeploy predeploy` to predeploy InfoView to Oracle Application Server.

```
wdeploy.sh oas1013
  -Das_dir=/opt/oracle10gasr3/oracleas_1
  -Das_instance=home
  -Das_appserver_name=oc4j_inst1
  -Das_group_id=default_group
  -Das_admin_port=6013
  -Das_admin_username=oc4jadmin
  -Das_admin_password=oracle12
  -DAPP=InfoViewApp
  predeploy
```

Example 2: using `wdeploy predeployall` to predeploy all web applications to Oracle Application Server.

```
wdeploy.sh oas1013
  -Das_dir=/opt/oracle10gasr3/oracleas_1
  -Das_instance=home
  -Das_appserver_name=oc4j_inst1
  -Das_group_id=default_group
  -Das_admin_port=6013
  -Das_admin_username=oc4jadmin
  -Das_admin_password=oracle12
  predeployall
```

Using deployonly and deployonlyall

The `deployonly` command deploys a web application that is specifically configured for the target web application server. The `deployonlyall` command performs the `deployonly` command for all web applications.

Example 1: using `wdeploy deployonly` to deploy a predeployed InfoView to Oracle Application Server.

```
wdeploy.sh oas1013
  -Das_dir=/opt/oracle10gasr3/oracleas_1
  -Das_instance=home
  -Das_appserver_name=oc4j_inst1
  -Das_group_id=default_group
  -Das_admin_port=6013
  -Das_admin_username=oc4jadmin
  -Das_admin_password=oracle12
  -DAPP=InfoViewApp
  deployonly
```

Example 2: using `wdeploy deployonlyall` to deploy all predeployed web applications to Oracle Application Server.

```
wdeploy.sh oas1013
  -Das_dir=/opt/oracle10gasr3/oracleas_1
  -Das_instance=home
  -Das_appserver_name=oc4j_inst1
  -Das_group_id=default_group
  -Das_admin_port=6013
  -Das_admin_username=oc4jadmin
  -Das_admin_password=oracle12
  deployonlyall
```

Using deploy and deployall

The `deploy` command creates resources and configuration files for a specific web application, which is then deployed to the web application server. The `deployall` command performs the `deploy` command for all web applications.

Running `deploy` is equivalent to running a `predeploy` command followed by a `deployonly` command. Running `deployall` is equivalent to running a `predeployall` command followed by a `deployonlyall` command.

Example 1: using `wdeploy deploy` to predeploy, then deploy, InfoView to Oracle Application Server.

```
wdeploy.sh oas1013
  -Das_dir=/opt/oracle10gasr3/oracleas_1
```

```
  -Das_instance=home
  -Das_appserver_name=oc4j_inst1
  -Das_group_id=default_group
  -Das_admin_port=6013
  -Das_admin_username=oc4jadmin
  -Das_admin_password=oracle12
  -DAPP=InfoViewApp
  deploy
```

Example 2: using `wdeploy deployall` to predeploy, then deploy, all web applications to Oracle Application Server.

```
wdeploy.sh oas1013
  -Das_dir=/opt/oracle10gasr3/oracleas_1
  -Das_instance=home
  -Das_appserver_name=oc4j_inst1
  -Das_group_id=default_group
  -Das_admin_port=6013
  -Das_admin_username=oc4jadmin
  -Das_admin_password=oracle12
  deployall
```

Using `undeploy` and `undeployall`

The `undeploy` command uninstalls a previously deployed web application from the web application server. The `undeployall` command performs the `undeploy` command for all web applications.

Example 1: using `wdeploy undeploy` to undeploy InfoView from Oracle Application Server.

```
wdeploy.sh oas1013
  -Das_dir=/opt/oracle10gasr3/oracleas_1
  -Das_instance=home
  -Das_appserver_name=oc4j_inst1
  -Das_group_id=default_group
  -Das_admin_port=6013
  -Das_admin_username=oc4jadmin
  -Das_admin_password=oracle12
  -DAPP=InfoViewApp
  undeploy
```

Example 2: using `wdeploy undeployall` to undeploy all web applications from Oracle Application Server.

```
wdeploy.sh oas1013
  -Das_dir=/opt/oracle10gasr3/oracleas_1
  -Das_instance=home
  -Das_appserver_name=oc4j_inst1
```

```
  -Das_group_id=default_group
  -Das_admin_port=6013
  -Das_admin_username=oc4jadmin
  -Das_admin_password=oracle12
  undeployall
```

Related Topics

- *After deploying web applications* on page 147

Deploying to JBoss with wdeploy

The Java Server Faces (JSF) bundled with the JBoss web application servers must be disabled for the Central Management Console (CMC) and InfoView web clients to work correctly.

To disable JSF, the following directories must be removed and JBoss restarted:

- *JBOSS_HOME*/server/default/deploy/jbossweb-tomcat55.sar/jsf-libs
- *JBOSS_HOME*/server/default/tmp
- *JBOSS_HOME*/server/default/work

Note: To use the Java`log4j` logging included with Crystal Reports Server 2008, refer to section 10.3.7 *Using your own log4j.properties file - class loader scoping* in the *JBoss Development Process Guide*: *http://docs.jboss.org/process-guide/en/html/logging.html#d0e3341*

Using `predeploy` and `predeployall`

The `predeploy` command creates resources and configuration files for a specific web application, then copies the WAR application to `<INSTALLDIR>/deployment/workdir/jboss404`, but does not deploy the web application to the web application server. The `predeployall` command performs the `predeploy` command for all web applications.

Example 1: using `wdeploy predeploy` to predeploy InfoView to JBoss.

```
wdeploy.sh jboss404
  -Das_dir=/opt/jboss-4.0.4.GA
  -Das_instance=default
  -DAPP=InfoViewApp
  predeploy
```

Example 2: using `wdeploy predeployall` to predeploy all web applications to JBoss.

```
wdeploy.sh jboss404
  -Das_dir=/opt/jboss-4.0.4.GA
  -Das_instance=default
  predeployall
```

Using deployonly and deployonlyall

The `deployonly` command deploys a web application that is specifically configured for the target web application server. The `deployonlyall` command performs the `deployonly` command for all web applications.

Example 1: using `wdeploy deployonly` to deploy a predeployed InfoView to JBoss.

```
wdeploy.sh jboss404
  -Das_dir=/opt/jboss-4.0.4.GA
  -Das_instance=default
  -DAPP=InfoViewApp
  deployonly
```

Example 2: using `wdeploy deployonlyall` to deploy all predeployed web applications to JBoss.

```
wdeploy.sh jboss404
  -Das_dir=/opt/jboss-4.0.4.GA
  -Das_instance=default
  deployonlyall
```

Using `deploy` and `deployall`

The `deploy` command creates resources and configuration files for a specific web application, which is then deployed to the web application server. The `deployall` command performs the `deploy` command for all web applications.

Running `deploy` is equivalent to running a `predeploy` command followed by a `deployonly` command. Running `deployall` is equivalent to running a `predeployall` command followed by a `deployonlyall` command.

Example 1: using `wdeploy deploy` to predeploy, then deploy, InfoView to JBoss.

```
wdeploy.sh jboss404
  -Das_dir=/opt/jboss-4.0.4.GA
  -Das_instance=default
```

```
  -DAPP=InfoViewApp
  deploy
```

Example 2: using `wdeploy deployall` to predeploy, then deploy, all web applications to JBoss.

```
wdeploy.sh jboss404
  -Das_dir=/opt/jboss-4.0.4.GA
  -Das_instance=default
  deployall
```

Using `undeploy` and `undeployall`

The `undeploy` command uninstalls a previously deployed web application from the web application server. The `undeployall` command performs the `undeploy` command for all web applications.

Example 1: using `wdeploy undeploy` to undeploy InfoView from JBoss.

```
wdeploy.sh jboss404
  -Das_dir=/opt/jboss-4.0.4.GA
  -Das_instance=default
  -DAPP=InfoViewApp
  undeploy
```

Example 2: using `wdeploy undeployall` to undeploy all web applications from JBoss.

```
wdeploy.sh jboss404
  -Das_dir=/opt/jboss-4.0.4.GA
  -Das_instance=default
  undeployall
```

Related Topics

- *After deploying web applications* on page 147

Deploying 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 your Crystal Reports Server 2008 installation, and Box 2 is the remote machine on which no Crystal Reports Server 2008 resources are currently installed.

1. Create on Box 2 the following directories.

- `<INSTALLDIR>/deployment/`: The wdeploy folder will contain the wdeploy scripts and configuration files.
- `<INSTALLDIR>/BusinessObjects Enterprise 12.0/java/applications/`
- `<INSTALLDIR>/caf/`

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.
   - Copy all the contents under `<INSTALLDIR>/deployment/`

     Note: This content is also available on the product distribution media under the following directory:

     `Collaterals/Tools/wDeploy`

     Tip: Remove the contents under `<INSTALLDIR>/bobje/deployment/workdir` after the file copy if that folder is not empty.
   - Copy all the contents under `<INSTALLDIR>/BusinessObjects Enterprise 12.0/java/applications`
   - Copy the contents of `<INSTALLDIR>/caf/`.
3. Set the Java_Home environment variable to JDK 1.5 directory.
4. Configure the war file directory for each web application. If you keep all the war files in the same folder, you don't need to configure the war file directory for each web application, skip to step 5.
   a. Open the properties file under `<INSTALLDIR>/deployment/apps` and modify the properties file for each web application (e.g `CrystalReports.properties`).
   b. Enter the following parameter in a new line:

      `war_dir` The value of the parameter is the war file path name.

      If you are going to deploy `CrystalReports.war`, you must set the value of `war_dir` in `<INSTALLDIR>/deployment/apps/CrystalReports.properties` to:

```
war_dir=/home/bobje/enterprise120/java/applications/Crys
talReports.war
```

c. Repeat steps a-b for all the web applications you want to deploy to your web application server.

5. Modify the wdeploy configuration file for your web application server. You must provide all the required information to enable wdeploy to deploy the web application.

   For example, to modify the configuration file for WebLogic 9, you would modify the file to:

```
as_dir=/bea92/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:`<INSTALLDIR>/deployment/config.<appserver>`.

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

```
<INSTALLDIR>/deployment/wdeploy.sh
 <appserver> deployall -Dwar_dir= dir=<INSTALLDIR>/bobje/
enterprise120/java/applications/ >>
<logfilename>.log
```

   You can pass the `-Dwar_dir` (with the path to the WAR files) in the command line to specify the location from which wdeploy accesses non customized WAR files.

   Tip: You can drop the deployable war files to non-default location by passing the parameter `-Dwork_dir=your desired location` as part of the wdeploy command.

Manually deploying to a web application

Crystal Reports Server WAR files

Crystal Reports Server separates web application functionality into several Web ARchive (WAR) files, making it easier to deploy only the web applications required by your organization.

Once you have installed Crystal Reports Server 2008 the source files are available in the following directory: `<INSTALLDIR>/BusinessObjects Enterprise 12.0/java/applications/`

The following table summarizes the relationship between the WAR files and specific web applications in a Crystal Reports Server 2008 deployment.

WAR file	Used by
`AdminTools`	Query Builder
`BusinessProcessBI`	Web services components
`CmcApp`	CMC (entry point)
`CmcAppActions`	CMC
`CrystalReports`	Crystal Reports, CMC, InfoView
`dswsbobje`	Web services components
`InfoViewApp`	InfoView (entry point)
`InfoViewAppActions`	InfoView
`OpenDocument`	Open Document
`PlatformServices`	CMC, InfoView

WAR file	Used by
PMC_Help	Performance Management
VoyagerClient	CMC, InfoView
XCelsius	Xcelsius data presentation

WAR file context roots

All WAR files, with the exception of InfoViewApp and CmcApp, can be deployed to fix context root locations on your web application server. The following table lists the context roots that must be used, unless otherwise noted.

WAR file	WAS context path (default)
AdminTools	/AdminTools
BusinessProcessBI	/BusinessProcessBI
CmcApp	/CmcApp **Note:** You may use a different root context for CmcApp as long as the root context matches the name of the WAR file. For example, a root context of /MyOrgCmc requires the WAR file to be named MyOrgCmc.war.
CmcAppActions	/CmcAppActions
CrystalReports	/CrystalReports
dswsbobje	/dswsbobje
InfoViewApp	/InfoViewApp **Note:** You may use a different root context for InfoViewApp as long as the root context matches the name of the WAR file. For example, a root context of /MyOrgInfo requires the WAR file to be named MyOrgInfo.war.

WAR file	WAS context path (default)
InfoViewAppActions	/InfoViewAppActions
OpenDocument	/OpenDocument
PlatformServices	/PlatformServices
PMC_Help	/PMC_Help
VoyagerClient	/VoyagerClient
XCelsius	/XCelsius

Guidelines for deploying WAR files

To successfully deploy the WAR files and to ensure your Crystal Reports Server web applications run properly, you should use the following guidelines.

1. Your web application server must be installed and running before you deploy any WAR file.
2. The order in which you deploy the WAR files for your web applications does not matter. However, if your deployment environment involves reverse proxy, there is a specific order you must follow. For more information see “Modifying Default Security Behavior ” in the *BusinessObjects Enterprise Administrator's Guide*.
3. When deploying a web application with functionality shared between multiple WAR files, each WAR file must reside within the same level of the context path.
4. As a general rule, do not rename the WAR files.

   Note:

   - Only two web applications can be renamed: `InfoViewApp` and `CmcApp`. To rename `InfoViewApp` you can rename the application using the web application server administration console.
   - To rename `CmcApp`, you must update the appservice.url.default parameter in the web.xml file located in the `WEB-INF` directories of the

`CmcApp.war` and `CmcAppActions.war`. Change CmcApp in the <param-value> tag shown below, to the new application name.

```
<context-param>
 <param-name>appservice.url.default</param-name>
 <param-value>/NewCMC/App/appService.jsp</param-value>
</context-param>
```

Manually deploying web applications

Ensure that your web application server and CMS are both running.

The following steps will deploy a web application on a web application server using the application server's administrative console. If the application server is located on a machine other than your Crystal Reports Server 2008 machine, follow the steps in *To prepare a manual deployment on a remote machine*.

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

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 InfoViewApp for deployment to Tomcat.

   ```
   wdeploy.sh tomcat55
     -Das_dir=/opt/usr/tomcat
     -Das_instance=localhost
     -Das_service_name=Tomcat55
     -DAPP=InfoViewApp
     predeploy
   ```

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

   ```
   wdeploy.sh tomcat55
     -Das_dir=/opt/usr/tomcat
     -Das_instance=localhost
     -Das_service_name=Tomcat55
     predeployall
   ```

   The wdeploy command will prepare the web application files for deployment on the web application server.

The wdeploy command creates WAR or EAR files in `<INSTALLDIR>/deployment/workdir/<appserver>/application` unless you specify the -Dwork_dir parameter.

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

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

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

Related Topics

- *Prerequisites for using wdeploy* on page 106
- *Preparing for manual deployment on a remote machine* on page 145

Preparing for manual deployment on a remote machine

Use the procedure below to manually deploy web applications to a remote machine.

In this procedure Box 1 refers to the machine hosting your Crystal Reports Server 2008 installation, and Box 2 is the remote machine on which no Crystal Reports Server 2008 resources are currently installed.

1. Create on Box 2 the following directories.
   - `<INSTALLDIR>/deployment/`: The wdeploy folder will contain the wdeploy scripts and configuration files.
   - `<INSTALLDIR>/BusinessObjects Enterprise 12.0/java/applications/`
   - `<INSTALLDIR>/caf/`

   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.
   - Copy all the contents under `<INSTALLDIR>/deployment/`

Note: This content is also available on the product distribution media under the following directory:

`Collaterals/Tools/wDeploy`

Tip: Remove the contents under `<INSTALLDIR>/deployment/workdir` after the file copy if that folder is not empty.

- Copy all the contents under `<INSTALLDIR>/BusinessObjects Enterprise 12.0/java/applications`
- Copy the contents of `<INSTALLDIR>/caf/`

3. Set the Java_Home environment variable to JDK 1.5 directory.
4. Configure the war file directory for each web application. If you keep all the war files in the same folder, you don't need to configure the war file directory for each web application, skip to step 5.
   a. Open the properties file under `<INSTALLDIR>/deployment/apps` and modify the properties file for each web application (e.g `CrystalReports.properties`).
   b. Enter the following parameter in a new line:

      war_dir: The value of the parameter is the war file path name.

      If you are going to deploy `CrystalReports.war`, you must set the value of war_dir in `<INSTALLDIR>/deployment/apps/CrystalReports.properties` to

      ```
      war_dir=/home/bobje/enterprise120/java/
      applications/CrystalReports.war
      ```

   c. Repeat steps a-b for all the web applications you want to deploy to your web application server.
5. Modify the wdeploy configuration file for your web application server. You must provide all the required information to enable wdeploy to prepare the WAR file for manual deployment.

   For example, to modify the configuration file for WebLogic 9, you must modify the file to:

   ```
   as_dir=/bea92/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:`<INSTALLDIR>/deployment/config.<appserver>`.

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

```
<INSTALLDIR>/deployment/wdeploy.sh
    <appserver> predeployall -Dwar_dir="<INSTALLDIR>/
    BusinessObjects Enterprise 12.0/java/
    applications/" >> <logfilename>.log
```

   You can pass the -Dwar_dir (with the path to the WAR files) in the command line to specify the location from which wdeploy accesses non customized WAR files.

   Tip: You can drop the deployable war files to non-default location by passing the parameter -Dwork_dir=your desired location as part of the wdeploy command.

7. The wdeploy command creates WAR or EAR files in `<INSTALLDIR>/deployment/workdir/<appserver>/application` unless you specify the -Dwork_dir parameter. Follow the manual deployment steps for your web application server.

You are now prepared to manually deploy web applications on Box 2.

After deploying web applications

To verify the web application server configuration, make sure that InfoView and the Central Management Console can be launched in a web browser. For example:

- `http://`*`WAS_HOSTNAME`*`:`*`PORT`*`/`*`INFOVIEW_CONTEXT`*
- `http://`*`WAS_HOSTNAME`*`:`*`PORT`*`/`*`CMC_CONTEXT`*

Replace *`WAS_HOSTNAME`* with the hostname or IP address of your web application server, and *`PORT`* with the port number used for either HTTP or HTTPS communication. The default root context used for InfoView is `InfoViewApp`; the default context used for the CMC is `CmcApp`.

Deploying with the Administration console

Deploying with the WebSphere administrative console

Ensure that your WebSphere web application server is installed, configured, and running before deploying WAR files.

Log in to the "WebSphere Application Server Administration" console using the following URL: `http://WAS_HOSTNAME:PORT/admin` The WebSphere admininstration console's default port number is 9060.

1. Under the **Applications** heading of the console navigation menu, click **Enterprise Applications** on the left navigational pane.
2. Click the **Install** button and navigate to the location of the WAR file to deploy.
3. Enter a context root for the WAR file (e.g. `CmcApp/` for `CmcApp.war`) and press the **Next** button, followed by **Continue**.
4. In the screen that appears, enter a unique name for the web application in the in "Step 1" field, and proceed to "Step 2".
5. Highlight the server you created (or highlight **server1** if you didn't create your own) from the **Clusters and Servers** and enable the **Select** checkbox. Proceed to "Step 3".
6. In the screen that appears, select the virtual host you created (or **default_host** if you didn't create your own) from the **Virtual Host** drop-down list. Proceed to "Step 4".
7. Review the summary page, and press **Finish** when done.
8. Click **Save to Master Configuration**.
9. Click the **Save** link, then the **Save** button.
10. Under the **Applications** heading of the console navigation menu, click **Enterprise Applications** on the left navigational pane.
11. Verify that the WAR file was deployed, then click the **Start** button.

Repeat steps 1-11 for each WAR file to deploy.

Related Topics

- *After deploying web applications* on page 147

Deploying to a WebSphere cluster

To manually deploy Crystal Reports Server 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 Crystal Reports Server web applications on a WebSphere web application cluster. To configure the load balancer and cluster setup please consult your WebSphere documentation.

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

1. If Crystal Reports Server is installed to the same machine hosting the WebSphere Deployment Manager, skip to step 3. If Crystal Reports Server and the WebSphere Deployment Manager runs on different machines, you must first copy the wdeploy tool and environment to the machine hosting the WebSphere administration server.
2. Modify the `config.websphere6` file located in the following directory: `<INSTALLDIR>/deployment/`. You need to specify information for the server administrating the cluster as shown in the following example.

   ```
   as_dir=<INSTALLDIR>/IBM/WebSphere/AppServer
   as_admin_port=8779
   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:

   ```
    <INSTALLDIR>/deployment>
   wdeploy.sh websphere6 predeployall
   ```

4. Open the WebSphere Integrated Solutions Console.
5. Go to **Applications** > **Enterprise Applications** to separately install each web application you want to deploy from the following directory:

   `:<INSTALLDIR>/deployment/workdir/websphere6/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 5-7 for each `EAR` file you want 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. Go to **Applications** > **Enterprise Applications** to start the application you just installed.

Related Topics

- *Deploying web applications on a remote machine* on page 138

Deploying with the WebLogic administrative console

Ensure that your WebLogic web application server is installed, configured, and running before deploying WAR files. You must also have created a WebLogic domain in which to run Crystal Reports Server. See your WebLogic documentation for information about creating a new domain.

Note:

- Deployable web applications for WebLogic are in the following format in the wdeploy workdir folder:
  - WebServices (BusinessProcessBI and dswsbobje) are folders
  - Rest of WebApps are WAR files
- WebLogic deployments must use an extracted dswsbobje.war. See *Deploying dswsbobje.war to WebLogic* on page 153.

1. Open the "WebLogic Administrative Console" with a web browser at a `http://`*`WAS_HOSTNAME`*`:`*`PORT`*`/console` where *`WAS_HOSTNAME`* is the name of your WebLogic server and *`PORT_NUMBER`* is the port number on which the server listens.

   The "WebLogic Server Administration Console" web page is displayed.
2. In the left-hand navigation pane, click **base_domain** > **Deployments**.

   The "Summary of Deployments" page is displayed.
3. Click the **Lock and Edit** button in the left-hand pane.

The domain is locked for editing.

4. Press the **Install** button and navigate to the WAR file you wish to deploy. When you've selected the file and specified any other parameters in the wizard, click the **Finish** button to deploy the file.

   The WAR file is deployed to the WebLogic server.

5. Press the **Activate Changes** button to apply you're the changes to the web application server.

   Your changes are saved.

6. When your WAR file has been deployed, you must press the **Start** button to initiate its execution.

   The web application you deployed will now start.

Related Topics

- *After deploying web applications* on page 147

Deploying to a WebLogic cluster

To manually deploy Crystal Reports Server web applications to a WebLogic cluster distributed over multiple machines, you need to deploy the web applications to the machine hosting the WebLogic administration server. Once all the required web applications have been installed, you can use the WebLogic administration console to deploy these applications to the cluster.

Tip: It is recommended that you install and configure a hardware or software load balancer if running Crystal Reports Server web applications on a WebLogic web application cluster. To configure the load balancer and cluster setup please consult your WebLogic documentation.

To deploy to a WebLogic cluster use the following general workflow:

1. After installing and setting up the WebLogic cluster, you need to create a WebLogic XML registry using the following default settings and target it to all managed servers as shown below:

Property	Value
Name	*Registry name*
Document Builder Factory	weblogic.apache.xerces.jaxp.DocumentBuilderFactoryImpl
SAX Parser Factory	weblogic.apache.xerces.jaxp.SAXParserFactoryImpl
Transformer Factory	weblogic.apache.xalan.processor.TransformerFactoryImpl

2. Modify the `config.weblogic10` or the `config.weblogic9` located in the following directory:

   `<INSTALLDIR>/deployment/`. You need to specify information for the server administrating the cluster as shown in the following example.

```
as_dir=/bea/user_projects/domains/base_domai
as_instance=AdminServer
as_admin_port=7001
as_admin_username=weblogic
as_admin_password=password
```

3. Modify the PersistentStoreType setting in the `weblogic.xml` file located in the following directory:

   `<INSTALLDIR>/deployment/templates/weblogic.xml`. The modified `weblogic.xml` settings will look like the example below:

```
 <weblogic-web-app>
     <session-descriptor>
           <session-param>
               <param-name>PersistentStoreType</param-name>

                     <param-value>replicated</param-value>

           </session-param>
     </session-descriptor>
```

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

```
 <INSTALLDIR>/deployment>
wdeploy.sh weblogic10 predeployall
```

5. Use the WebLogic administration console to separately install each web application you want to deploy from the following directory:

   `<INSTALLDIR>/deployment/workdir/weblogic10/application/.`

6. In the "Select deployment targets" workflow select the cluster name and **All servers in the cluster**.
7. After the "Select deployment targets" is complete, select all the installed applications and go to **Start** > **Servicing all requests**.

Deploying dswsbobje.war to WebLogic

Before deploying web services WAR file on a WebLogic application server, the user must extract `dswsbobje.war`. If the WAR file is not extracted and redeployed, web services applications may display the error message “An XSD Exception occurred”.

1. Extract `dswsbobje.war` to a directory on the WebLogic web application server.
2. Log on to the "WebLogic Administration Console".
3. Click **Lock & Edit**.
4. Go to **Domain Structure** > **Deployments** and click **Install**.
5. Browse to the extracted dswsbobje.war directory.
6. Select the directory and click **Next**.
7. Select **Install this deployment as an application** and click **Next**.
8. Verify the settings and click **Finish**.

   A message will be displayed when the dswsbobje.war web application has been successfully deployed. The list of web applications contains the dswsbobje web application.
9. Select the dswsbobje web application and click **Start**.
10. Click **Activate Changes**.
11. Select the dswsbobje web application and click **Start**.
12. Press **OK** to confirm the changes.

    The dswsbobje web application is started.
13. Open the web application in a web browser to confirm that it now runs.

Related Topics

- *After deploying web applications* on page 147

Deploying with the Tomcat administrative console

Ensure that your Tomcat web application server is installed, configured, and running before deploying WAR files.

Log on to the "Tomcat Manager Console".

- `http://WAS_HOSTNAME:PORT/manager/html`

1. 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. For example, to deploy a web application packaged as `MyWebApplication.war`, the context path must be `MyWebApplication`.
2. Set the **XML Configuration File** setting to be an XML file that contains the context path and document base. For example: `<Context docBase="<M>/WEB_APPLICATION.war" path="<context_path>" crossContext="false" debug="0" reloadable="false" trusted="false"/>`
3. Enter the full path to the WAR file and press the **Deploy** button

   The selected WAR file is deployed.

Related Topics

- *After deploying web applications* on page 147

Special considerations for deploying on Tomcat clusters

To manually deploy web applications to a Tomcat web application cluster distributed over multiple machines, you need to deploy the web applications on to each Tomcat instance. You can use the administrative console to deploy the Crystal Reports Server web applications to the `webapps` subfolder in the Tomcat home directory for each server instance.

Tip: It is recommended that you install and configure a hardware or software load balancer if running Crystal Reports Server web applications on a Tomcat web application cluster. To configure the load balancer and cluster setup please consult your Tomcat documentation.

Deploying with the Oracle Application Server administrative console

Ensure that your Oracle Application Server web application server is installed, configured, and running before deploying WAR files. You must also have created an Oracle container for Java (OC4J) container in which to run Crystal Reports Server.

1. Open the Oracle Application Server Enterprise Manager server page at `http://WAS_HOSTNAME:PORT/em`. Replace *WAS_HOSTNAME* with the hostname or IP address of your web application server, and *PORT* with the port number used for HTTP. The default port for Oracle Application Server is 7777.

   The Oracle Application Server Control page is displayed.

2. Click on the **home** OC4J container.

   The **home** group is displayed under the **Groups** heading.

3. In the **home** OC4J container, click on the **Applications** tab.

   The deployed web applications are displayed.

4. Click on the **Deploy** button.

   The "Deploy: Select Archive" window is displayed.

5. Ensure that the **Archive is present on local host option** is selected, unless the web application is already running on the server, in which case select **Archive is already present on the server where Application Server Control is running**.
6. Enter the full path, or browse to the WAR file in the **Archive Location** field.
7. Press the **Next** button to advance to the next step in the WAR deployment wizard.

   The "Deploy: Application Attributes" window is displayed.

8. Enter the application name and context root of the file you wish to deploy. By default, the context root will contain the application name. For example, for `InfoView.war`, the application name will be `InfoView`. When ready, press **Next** to proceed.

   The "Deploy: Deployment Settings" page is displayed.

9. Select the class loading options you want enabled for the WAR file and press **Next** to proceed.

If your application requires any class libraries, click on **Configure Class Loading** from the **Deployment Tasks** section.

10. In the **Configure Web Module Class Loaders** field, specify the location of JAR file containing the libraries.
11. Click on the **Deploy** button to complete the deployment.

    Check the output of the Progress Messages log field, to ensure that the web application has been deployed.

Related Topics

- *After deploying web applications* on page 147

Deploying with the JBoss administrative console

Ensure that your JBoss web application server is installed, configured, and running before deploying WAR files.

The Java Server Faces (JSF) bundled with the JBoss web application servers must be disabled for the Central Management Console (CMC) and InfoView web clients to work correctly.

To disable JSF, the following directories must be removed and JBoss restarted:

- *JBOSS_HOME*/server/default/deploy/jbossweb-tomcat55.sar/jsf-libs
- *JBOSS_HOME*/server/default/tmp
- *JBOSS_HOME*/server/default/work

Note: To use the Java`log4j` logging included with Crystal Reports Server 2008, refer to section 10.3.7 *Using your own log4j.properties file - class loader scoping* in the *JBoss Development Process Guide*: *http://docs.jboss.org/process-guide/en/html/logging.html#d0e3341*

The following deployment paths are based on the different levels of service:

- *JBOSS_HOME*/server/all/deploy
- *JBOSS_HOME*/server/default/deploy
- *JBOSS_HOME*/server/minimal/deploy

1. Copy your WAR files to the appropriate context root sub-directory under one of the above paths, based upon the level of service provided by JBoss for your deployment.

   The web application will be automatically deployed by JBoss when the file is copied to the appropriate directory.

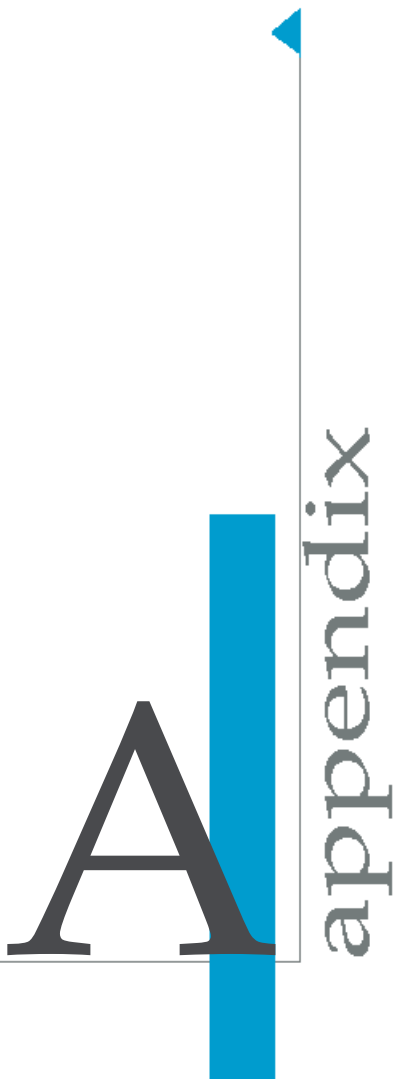
2. Check the JBoss server log, and you should see a message similar to the one shown below to confirm that the WAR deployment succeeded.

```
06:23:08,906 INFO;TomcatDeployer deploy,
ctxPath=.../BusinessObjects Enterprise 12.0/adminlaunch,
warUrl=.../tmp/deploy/tmp38470admin-exp.war/
06:23:09,562 INFO; [ReportSourceBridge] Servlet viewrpt
started.
```

Related Topics

- *After deploying web applications* on page 147

Get More Help



Online documentation library

Business Objects offers a full documentation set covering all products and their deployment. The online documentation library has the most up-to-date version of the Business Objects product documentation. You can browse the library contents, do full-text searches, read guides on line, and download PDF versions. The library is updated regularly with new content as it becomes available.

http://help.sap.com/

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