



Crystal Reports Server 2008 V1 Installation Guide for Linux

- Crystal Reports Server 2008 V1

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Getting Started

About this documentation

This documentation provides information, procedures, and options for installing, removing, and repairing Crystal Reports Server 2008 V1 client tools and language packs. Two versions of this guide are available:

- *Crystal Reports Server 2008 V1 Installation Guide for Windows*: for use with Microsoft Windows operating systems.
- *Crystal Reports Server 2008 V1 Installation Guide for Linux*: for use with Linux operating systems.

Note:

Information related to the post-installation deployment of WAR files to a Java web application server is now covered in *BusinessObjects Enterprise XI 3.1 Web Application Deployment Guide*.

Who should read this documentation

This documentation is intended for the system administrator, who needs to install Crystal Reports Server 2008 V1 on a Linux operating system. Familiarity with the network environment, port usage conventions, database environment, and web server software is essential.

Note:

If you are installing Crystal Reports Server 2008 V1 on a Microsoft Windows operating system, see *Crystal Reports Server 2008 V1 Installation Guide for Windows*.

Crystal Reports Server 2008 V1 guides

The following table provides a list of Crystal Reports Server 2008 V1 guides and a brief description of them:

Guide	Description
Crystal Reports Server 2008 V1 Installation Guide	This guide describes how to run the setup program and complete the installation of Crystal Reports Server 2008 V1. There are Linux and Windows versions of this guide available.
Crystal Reports Server 2008 V1 Upgrade Guide	This guide provides the upgrade scenarios for Crystal Reports Server 2008 V1 from the earlier versions.
Crystal Reports Server 2008 V1 Release Notes	This guide describes fixed and known problems in the Crystal Reports Server 2008 V1 release, and also describes what's new in Crystal Reports Server 2008 V1.
Crystal Reports Server 2008 V1 Getting Started Guide	This guide introduces Crystal Reports Server 2008 V1 components and describes how to work with them.
Crystal Reports Server 2008 V1 Quick Installation Guide	This guide describes how to run the quick install setup program and complete the installation of Crystal Reports Server 2008 V1. There are Linux and Windows versions of this guide available.
White Paper on WACS Administration and Deployment	This document elaborates the steps required to create a WACS instance, deploy different applications, and perform debugging.

For a complete list of all SAP BusinessObjects product documentation please visit: <http://help.sap.com/>

What is Crystal Reports Server 2008 V1?

Crystal Reports Server 2008 V1 is a flexible, scalable, and reliable business intelligence reporting system that can be tightly integrated into your information technology infrastructure. Support for many industry-standard database systems makes it easier to access your organization's data for analysis. The use of common industry standards for security enables you to use your existing authentication systems to control access to Crystal Reports Server 2008 V1. The broad platform support enables you to install Crystal Reports Server 2008 V1 on the operating systems and hardware architecture that you prefer.

As a system administrator, you will be faced with many choices when installing Crystal Reports Server 2008 V1. This documentation helps you to make the right decisions to create a reliable and powerful business intelligence reporting system for your organization.

What's new in the Crystal Reports Server 2008 V1 Installation Guide?

The installation and deployment documentation from previous releases of Crystal Reports Server 2008 V1 has been split into separate installation and web application deployment guides:

- For information related to the installation of Crystal Reports Server 2008 V1, see *Crystal Reports Server 2008 V1 Installation Guide* (this guide).
- For information related to the post-installation deployment of web applications, see *BusinessObjects Enterprise Web Application Deployment Guide*.

This document is the first to include information on the following features for Crystal Reports Server 2008 V1:

Feature	Description
.NET support	The deployment of ASP.NET web applications is now supported on Microsoft operating systems running the IIS web application server. The Crystal Reports Server 2008 V1 setup program can automatically deploy .NET support and a .NET version of InfoView during installation.
IPv6 support	IP version 6 (IPv6) addresses can now be used anywhere in Crystal Reports Server 2008 V1.
Web application servers support	The wdeploy tool now supports the deployment of web applications to: <ul style="list-style-type: none"> • JBoss • WebSphere Community Edition • Sun Java One (Linux only)
Operating systems	Crystal Reports Server 2008 V1 is now supported on the following operating systems: <ul style="list-style-type: none"> • HP-UX IA-64 • Redhat 5
Publishing support	Publishing refers to the process of adding objects to the Crystal Reports Server 2008 V1 environment, and making these objects available to authorized users. Once an object is published, it appears in the folder in InfoView (or your customized web portal), and in the Objects Management area of the Central Management Console (CMC).

Feature	Description
Dashboard Builder support	Dashboard Builder is an SAP BusinessObjects Dashboard and Analytics application that helps you manage and track your company's performance using analytics and dashboards, as well as schedule the refresh of metrics, sets, control charts, predictive models and analytics.
Java Portal Integration Kit support	Java Portal Integration Kit integrates the content directly with Java-based portals, and provides the user with a personalized, single, secure view of corporate information.
Integration option for Microsoft SharePoint support	The Integration option for Microsoft SharePoint software runs in your web browser and is your main interface for working with objects in Crystal Reports Server 2008 V1.
SharePoint Portal Integration Kit support	Crystal Reports Server 2008 V1 supports SharePoint Portal Integration Kit.
Xcelsius support	Xcelsius is a leading-edge Microsoft Windows application that brings data to life. Using breakthrough technology, Xcelsius bridges the gap between data analysis and visual presentation, empowering users of all proficiencies to create visually stunning interactive reports and applications.
Auditing Support	Auditing enables you to keep a record of significant events on Crystal Reports Server 2008 V1 servers.

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

Compatibility with other SAP BusinessObjects products

This section provides information about compatibility between Crystal Reports Server 2008 V1 and other SAP BusinessObjects products.

Note:

The compatibility information discussed in this section is applicable only if the SAP BusinessObjects products are installed on the same system.

Crystal Reports Server 2008 V1 is compatible with the following SAP BusinessObjects products:

- Crystal Reports 2008 (XI 3.1)
- Live Office XI 3.1
- Crystal Reports Server XI Release 2

Crystal Reports Server 2008 V1 is incompatible with the following SAP BusinessObjects products:

- Crystal Reports 2008 (XI 3.0)
- Live Office (XI 3.0)
- BusinessObjects Edge Series 3.0 Client/Server
- BusinessObjects Enterprise XI 3.1 Client/Server
- BusinessObjects Enterprise XI 3.0 Client/Server
- BusinessObjects Enterprise XI Release 2
- Edge XI R2 (Crystal Decisions)
- Crystal Report Server 2008
- Crystal Report Server XI
- BusinessObjects Enterprise XI Release 1
- Classic BusinessObjects (5.x/6.x)
- Classic Crystal (Crystal Enterprise 10 or earlier)
- Crystal Reports Server Embedded - All Editions (RAS Standalone)

Note:

If you try to install Crystal Reports Server 2008 V1 on a system that already has any of the above-mentioned products installed, the Crystal Reports Server 2008 V1 installer terminates the installation.

Preparing to Install Crystal Reports Server 2008 V1

Installation overview

Before you install Crystal Reports Server 2008 V1, you should:

- Consult the *BusinessObjects Enterprise Planning Guide* to gain a general understanding of the installation process and the different options available.
- Review your systems to ensure that it meets the basic requirements for a Crystal Reports Server 2008 V1 installation. See [System requirements](#) on page 14.
- Ensure that all systems that will be part of your Crystal Reports Server 2008 V1 deployment can communicate with one another across your network. See [Network requirements](#) on page 14.
- Decide which Crystal Reports Server 2008 V1 components to install, and which of your own components to integrate. For more information on determining your needs and planning requirements, see *BusinessObjects Enterprise Planning Guide*.

Note:

If you are upgrading from an earlier version of Crystal Reports Server 2008 V1, ensure that all components are at the same patch level before starting the system. If the components are at different patch levels, some components may encounter communication problems.

- Determine the location where you want to install the components. This includes the specific subnet, system, database, security that will be used to run your system.

The following sections list the core software requirements, the choices available to you within the core requirements, and the installation methods that you can use when you install Crystal Reports Server 2008 V1.

An installation checklist is provided to help you in ensuring that you are prepared before beginning the installation of Crystal Reports Server 2008 V1.

Related Topics

- *Installation checklist* on page 45

System requirements

For a detailed list of supported environments and hardware requirements, see the Products Availability Report (PAR) document available at the SAP BusinessObjects support site <http://service.sap.com>. This document includes specific version and patch-level requirements for web application servers, web browsers, and operating systems. For information related to the planning of a Crystal Reports Server 2008 V1 deployment, see *BusinessObjects Enterprise Planning Guide*.

Crystal Reports Server 2008 V1 ships with the Tomcat and MySQL database server. If you are planning to use a different web application or database server, it must be installed and configured before installing Crystal Reports Server 2008 V1.

Note:

WACS is supported only on Windows operating system.

Related Topics

- *CMS Database requirements and preparation* on page 26

Network requirements

When installing Crystal Reports Server 2008 V1, ensure that each system can communicate over TCP/IP with the system running the Central Management Server (CMS), and all other systems in the deployment. A dedicated web server must be able to communicate with the web application server. All web desktop clients must be able to access the web server. For more information on the communication between components, see the "Architecture" section in *BusinessObjects Enterprise Planning Guide*.

Note:

- If you are installing Crystal Reports Server 2008 V1 in a firewalled environment, see the "Working with Firewalls" section in *BusinessObjects Enterprise Administrator's Guide*.
- If you are installing on a VMware virtual machine, ensure the system name does not include underscore (_), period (.), or slash (/ or \) characters.

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 2008 V1 will be installed.

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 is complete. This script creates entries in the run control scripts for the operating system that start up the Crystal Reports Server 2008 V1 servers when the Linux server is brought up, and stops the servers when a system is shut down.

The following table summarizes all the required permissions for installing Crystal Reports Server 2008 V1.

Category	Required permissions
Operating System	Read, write, and execute permissions to the directory where Crystal Reports Server 2008 V1 will be installed. Root access if performing a system installation.
Network	Access to all systems via TCP/IP - all specified ports must be available.
Database	Rights to add and drop tables to or from the database, plus rights to read, write, and edit table rows.

Setting up your Linux system

Crystal Reports Server 2008 V1 integrates with your existing database and web server software components, so the installation script needs to collect certain information about your current system.

As Linux systems can vary significantly from site to site, the following sections provide details of the key tasks that you must perform prior to installing Crystal Reports Server 2008 V1.

Setting the locale

Before you install Crystal Reports Server 2008 V1, set your operating system to use one of the locales that Crystal Reports Server 2008 V1 supports for your version of Linux. For a detailed list of supported Linux environments, see the *Product Availability Report* available at the SAP BusinessObjects support site: <http://service.sap.com>.

Note:

Ensure that the character set translation on your terminal is set to UTF-8.

However, to ensure that your operating system uses the correct locale whenever Crystal Reports Server 2008 V1 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 the environment variables in the `.login` file).

Tip:

Type `locale` to check that all of the related locale environment variables (such as `LC_MONETARY` and `LC_NUMERIC`) are properly set by `LC_ALL`.

For information on deploying Crystal Reports Server 2008 V1 for a multilingual, world-wide audience, see [International deployments overview](#) on page 107.

Checking for required commands and utilities

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

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

These relatively standard commands and utilities should be available on most Linux distributions. However, if for any reason one of them is not available on your system, download and install a version appropriate to your Linux system. It is recommended that you get all the 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 2008 V1.

For more information, see [Creating an account, a home directory, and a login environment](#) on page 18.

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

Create a specific user account and group under which the Crystal Reports Server 2008 V1 background processes can run. Log on with this user account 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 2008 V1 needs to run as root.

Use your usual administrative procedures to perform these recommended tasks.

Setting up an account for installing Crystal Reports Server 2008 V1

Perform the following steps to set up an account to install Crystal Reports Server 2008 V1:

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 2008 V1.

By default, the installation will use your current directory as its base directory for installation, that is, the directory where you run `install.sh`. Alternatively, you can select a directory of your choice at the time of installation. The installation directory that you specify is 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, ensure that the login script(s) set up a default login environment that meets these requirements:
 - All 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 2008 V1.

Related Topics

- *Checking for required commands and utilities* on page 17
- *Setting the locale* on page 16

Meeting the host name and network requirements

Your 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 your Linux system documentation.

When installing Crystal Reports Server 2008 V1 on multiple systems, ensure that each target system is able to communicate over TCP/IP with the system that is running as your Central Management Server (CMS).

Note:

If you are installing Crystal Reports Server 2008 V1 in a firewall environment, you will need additional configuration details. See the "Working with Firewalls" section in *BusinessObjects Enterprise Web Application Deployment Guide*.

Difference between user and system installation

When you perform a new installation, on Linux, you can choose between a user installation 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 in the run control scripts for the operating system that start up the Crystal Reports Server 2008 V1 servers when the Linux server is brought up and stops the Crystal Reports Server 2008 V1 servers when a system is shut down.

Note:

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

Setting up server communication

Crystal Reports Server 2008 V1 requires a database server and web application server software to be 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 2008 V1.

You must ensure that all Crystal Reports Server 2008 V1 systems can communicate with one another:

- Each Crystal Reports Server 2008 V1 system must be able to communicate over TCP/IP with the system that runs your Central Management Server (CMS). The CMS is responsible for maintaining a database of information about your Crystal Reports Server 2008 V1 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 2008 V1 content, and servers. For more information about CMS, see the “Managing and Configuring Servers” section in *BusinessObjects Enterprise Administrator’s Guide*.
- If the host system 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 2008 V1. For information on how to reconfigure servers 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 2008 V1 must have a fixed host name. 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 2008 V1. If you are unfamiliar with these procedures, see your Linux system documentation.

Note:

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 to use Unicode character encoding (such as UTF-8). See your database documentation to determine the settings required for a Unicode configuration.
- If you connect Crystal Reports Server 2008 V1 to a web application server, the web application server must be able to communicate with all Crystal Reports Server 2008 V1 systems. This communication is enabled by the Crystal Reports Server 2008 V1 Software Development Kit (SDK), which is installed as part of the Web Tier Components. 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 2008 V1, you will need to install it.
- If you are installing Crystal Reports Server 2008 V1 in a firewalled environment, you will need additional configuration details. See the "Working with Firewalls" section in *BusinessObjects Enterprise Administrator's Guide*.

Choosing a server location

When planning your Crystal Reports Server 2008 V1 installation, you must also consider where you will place your deployment 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).

The CMS can also maintain a separate audit database of information about user actions. To optimize CMS performance, place your CMS on the same LAN as the database servers that host your CMS database and the Crystal Reports Server 2008 V1 audit database.

For more information on other factors that you may want to consider in planning your Crystal Reports Server 2008 V1 installation, see the "Managing and Configuring Servers" section in *BusinessObjects Enterprise Administrator's Guide*.

Installation type

The Crystal Reports Server 2008 V1 application can be installed by using the **New** option. This option enables you to install all components on the same system, and also enables you to set up the entire deployment quickly.

The **New** option for installing Crystal Reports Server 2008 V1 is useful for installing small, trial, or tested installations. Components can be disabled after the installation if they are not required.

For information on performing installation upgrades, see *Crystal Reports Server 2008 V1 Upgrade Guide*.

Installation modes

The two modes of installing Crystal Reports Server 2008 V1 are:

- Running the installation setup program

The installation set up program provides a number of screens that allows you to select an installation type, specify the details for your CMS database, and deploy web applications to a supported application server.

- Running a silent or scripted installation

The silent or scripted installation is useful when you need to perform multiple installations, or install without the setup program prompting for configuration information.

Silent installation

A silent installation uses configuration information that is stored in a `.ini` response file during a previous command-line installation of Crystal Reports Server 2008 V1. This method is useful when you need to perform multiple installations, or install without the setup program prompting for configuration information.

You can also incorporate the silent installation command into your own build scripts. For example, if your organization uses scripts to install software on

systems, you can add the silent Crystal Reports Server 2008 V1 installation command to those scripts.

You may want to choose a silent installation if:

- You need an automated method for performing identical or similar installations on several systems.
- You do not want to run the Crystal Reports Server 2008 V1 setup program.

Installing client tools only

You can install the Crystal Reports Server 2008 V1 client tools by using the Crystal Reports Server 2008 V1 Client Tools installation package.

Note:

The client tools are applications that can only be installed on Windows.

If you install the Crystal Reports Server 2008 V1 servers on a Linux system, you can connect remotely to Crystal Reports Server 2008 V1 with the client tools installed on a Windows system.

The available tools are:

Client tool	Description
Data Source Migration Wizard	Migrates reports based on Crystal queries, dictionaries, or InfoView to Crystal Reports Server 2008 V1.
Business View Manager	Provides relational views of information for creating and modifying Data Connections, Dynamic Data Connections, Data Foundations, Business Elements, or Business Views.
Import Wizard	Imports user, group, object, or folder content from previous and current Crystal or Crystal Reports Server 2008 V1 deployments.
Publishing Wizard	Publishes and sets properties for multiple reports in Crystal Reports Server 2008 V1.

Client tool	Description
Developer Components	Software Development Kits (SDK) with wizards and templates for integrating Crystal Reports Server 2008 V1 functionality into your interactive web applications: <ul style="list-style-type: none"> • BusinessObjects Enterprise .NET SDK. • BusinessObjects Enterprise Java SDK. • BusinessObjects Enterprise Web Services SDK.
Deployment Diagnostic Tool	The Deployment Diagnostic Tool is a Java-based application designed to verify basic operating functionality of a Crystal Reports Server 2008 V1 installation.
Software Inventory Tool	The Crystal Reports Server Software Inventory Tool is a Java-based maintenance tool available to administrators. It creates and maintains an inventory of all changes made to Crystal Reports Server 2008 V1 via the installers and allows users to view these changes.

Install these applications for users responsible for managing Crystal Reports Server 2008 V1 content, developing applications, or importing system data. Client tools are not needed by users who access InfoView or the CMC administrative web applications.

Note:

The Crystal Reports Server 2008 V1 Client Tool Setup program does not generally require a license key to activate the product.

CMS Database requirements and preparation

Crystal Reports Server 2008 V1 requires a database to store Central Management Server (CMS) information about the system and its users. This database is referred to as the CMS, or system, database.

The following sections provide details required for the settings, and how to test the settings for the following database servers:

- DB2
- MySQL
- Oracle
- Sybase

Before installing Crystal Reports Server 2008 V1, review this information in order to prepare your CMS system and auditing database.

For more information on database requirements, see the "Databases in BusinessObjects Enterprise" in *BusinessObjects Enterprise Planning Guide*.

Note:

Regardless of database type, the database must be set up to use Unicode character encoding, such as UTF-8.

Using a supported database server

The CMS supports a number of third-party database servers, so you can connect Crystal Reports Server 2008 V1 to your existing database infrastructure. For a detailed list of supported database servers, see the Product Availability Report (PAR) document available at the SAP BusinessObjects support site <http://help.sap.com>.

If you do not have a database installed on your system, you can choose to install and configure MySQL as your CMS database through the Crystal Reports Server 2008 V1 installation setup program.

Using MySQL as the Central Management Server (CMS) database

MySQL is an open-source database included with Crystal Reports Server 2008 V1 that can be automatically installed and configured for use as the Central Management Server (CMS), or system, database.

If you want to use an existing supported database server, you can enter connection and authentication parameters during the Crystal Reports Server 2008 V1 installation process.

Sourcing the script that identifies the database environment variables

If you are using an existing database, you need a method to connect to it from within Crystal Reports Server 2008 V1. 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 2008 V1 with a different web application server than the Tomcat version that can be configured with your installation, you need to source the environment script. This will set up the required variables for Crystal Reports Server 2008 V1.

Technically, sourcing your environment script involves running a script in your current environment. When your database client is sourced from within Crystal Reports Server 2008 V1, all the required environment variables for your database are set up and exported.

Your database client or the Crystal Reports Server 2008 V1 environment script can be sourced from the command line, entered into a profile, or entered into another script as described below:

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

```
source ora10env.sh
```

- To source the Crystal Reports Server 2008 V1 environment script, you must execute the script that sets up the variables required. For example, you must add this to the Tomcat `setenv.sh` or the WebSphere startup script:

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

Note:

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

Setting up a database account for Crystal Reports Server 2008 V1

The Central Management Server (CMS) uses a database to store system information. If you choose to install MySQL as part of your Crystal Reports Server 2008 V1 installation, a MySQL CMS database will be created for you.

If you plan to use your own database, you must complete the steps listed below before installing Crystal Reports Server 2008 V1.

To create tables and write data to your new CMS database, the installation program needs to establish a connection to the database server. When you log on to the account being used to install Crystal Reports Server 2008 V1, the environment must include the appropriate variables and database drivers to access your chosen database. Only then can the installation program access the CMS database using your database client software.

1. Create or select a user account that provides Crystal Reports Server 2008 V1 with the appropriate privileges to access your database server.
2. Verify that you can log on to your database and that you have rights to add or remove database tables and to add, delete, or edit table rows with the user account.

Setting up an empty database for the CMS

The installer will prompt for the connection and authentication details if you choose to use your own database during the installation of Crystal Reports Server 2008 V1. The following database servers are supported for the CMS system and audit databases:

- Oracle
- DB2
- MySQL
- Sybase

Note:

See the online Crystal Reports Server 2008 V1 supported platforms document for information related to supported database software and version requirements available at <https://service.sap.com>

To integrate your existing database with Crystal Reports Server 2008 V1, you need to configure it. The following points summarize the steps to configure your database:

- Create a new tablespace, schema, or database (the exact terminology will depend on the database platform you are using) to act as the CMS

database. Create a second for the auditing database, if you plan to enable auditing.

- Create a new user account and password to be used by Crystal Reports Server 2008 V1 to access the CMS database. Create a second username and password if you plan to enable auditing.
- Specify that the new user account has the required permissions to create, modify, and delete tables and create procedures so that the database can be modified as required.
- Record the name of the database(s), the user account(s), and the password(s) you created, so you can enter the details when you run the Crystal Reports Server 2008 V1 installer.

During the installation, you can choose to reinitialize the existing database. This will cause new tables to be created in your existing database. Consult your specific database server documentation if you are unsure of the procedure for creating a new tablespace, schema, or database. Ensure that your database server is set up to use Unicode character encoding (such as UTF-8).

Note:

If you have a previous release of Crystal Reports Server 2008 V1 then you cannot use the database from the previous release. You must create a new database, or the existing data from the previous release will be destroyed. To migrate from a previous release, create a new database, migrate your old content to the new database after the installation is complete.

DB2 database requirements

If you are using DB2 for the Central Management Console (CMC) or auditing database:

- Ensure that the CMS database is not partitioned.

Note:

The auditing database can be partitioned.

- Create the database with the following settings:

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

If your DB2 database does not have the correct Collating Sequence setting, the user and user group objects may not sort properly in the CMC.

Replace `xx` with the code that is appropriate for your location. For more information consult your DB2 documentation.

- 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 does not need this requirement. Stored procedures are used by Crystal Reports Server 2008 V1 when users are added to groups. For information on how to configure the C compiler for SQL stored procedures consult the DB2 documentation.

Once the database is created, you will need to configure it to Crystal Reports Server 2008 V1 installation.

Related Topics

- *Preparing an existing database server* on page 42

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.

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 2008 V1 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 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 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 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 install Crystal Reports Server 2008 V1 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 variables* on page 27

Verifying DB2 native connectivity through a database alias

Perform the following steps to test whether the required environment variables are set:

1. Log on to the Linux server with the user account and password which you used to install Crystal Reports Server 2008 V1.

Note:

Ensure this account is set up before you login. For more information on setting up a Linux account to use when you install Crystal Reports Server 2008 V1, see [Creating an account, a home directory, and a login environment](#) on page 18.

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
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 Linux) 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:/export/home/db2inst1/sqllib/misc
```

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

```
db2
```

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

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

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

```
drop table sampletable
```

7. Type `terminate`.

Oracle database requirements

If you are using Oracle for the CMS or auditing database:

- Use a Unicode character set, such as UTF-8.

Once the database is created, you will need to configure it to Crystal Reports Server 2008 V1 installation.

Related Topics

- [Preparing an existing database server](#) on page 42

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.

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 2008 V1 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 2008 V1 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 variables* on page 27

Verifying Oracle native connectivity through a TNS

Perform the following steps to verify Oracle native connectivity through a TNS:

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

Note:

This account must be set up before running the installation. For more information on setting up a Linux account to use when you install Crystal Reports Server 2008 V1, see [Creating an account, a home directory, and a login environment](#) on page 18.

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 <code>bin</code> and <code>lib</code> directories).
<i>library path</i>	The library search path (<code>LD_LIBRARY_PATH</code> on Solaris and Linux, <code>LIBPATH</code> on AIX, and <code>SHLIB_PATH</code> on HP-UX) must include the <code>lib32</code> directory of your Oracle client installation.
PATH	The search path must include the <code>bin</code> 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
```

- Execute 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.

- Execute the following command to ensure that the account has permission to create tables:

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

- Execute the following command to ensure that the account has permission to delete tables:

```
drop table sampletable;
```

- Execute 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;
```

- Execute the following command to ensure that the account has permission to drop procedures:

```
DROP PROCEDURE TEST_PROC;
```

- Type `exit`.

Sybase database requirements

If you are using Sybase for the CMS or auditing database:

- Create a database with a page size of 8 KB. The Sybase database default page size is 2 KB, which is too small for the CMS system database to run efficiently. The page size is set up during the database creation and cannot be changed after the database is created.
- Use a Unicode character set, such as UTF-8.

Once the database is created, you must configure it to Crystal Reports Server 2008 V1 installation.

Related Topics

- *Preparing an existing database server* on page 42

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.

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 2008 V1 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 2008 V1 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 variables on page 27*

Verifying Sybase native connectivity through a server name

Perform the following steps to verify Sybase native connectivity through a server name:

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

Note:

This account must be set up before running the installation. For more information on setting up a Linux account to use when you install Crystal Reports Server 2008 V1, see [Creating an account, a home directory, and a login environment](#) on page 18.

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).
SYBASE_OCS	This variable contains the name of the Sybase version directory (one level above the Sybase bin and lib directories).

Variable	Value
<i>library path</i>	The library search path (<code>LD_LIBRARY_PATH</code> on Solaris and Linux, <code>LIBPATH</code> on AIX, and <code>SHLIB_PATH</code> on HPUX) must include the <code>lib</code> directory of your Sybase client installation.
PATH	The search path must include the <code>bin</code> directory of your Sybase client installation.

This code sample 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
```

- Execute 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.

- Execute 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. Execute the following command to ensure that the account has permission to delete tables:

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

6. Type `quit`.

Related Topics

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

MySQL database requirements

If you are using your own MySQL installation for the CMS or auditing database:

- Use a Unicode character set, such as UTF-8.

Once the database is created, you will need to configure it to Crystal Reports Server 2008 V1 installation.

Related Topics

- *Preparing an existing database server* on page 42

Testing MySQL environment variables

If you are using an existing MySQL database, ensure the `MYSQL_HOME` variable is set up for the user who will install Crystal Reports Server 2008 V1.

If this variable is not set up, 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.

Preparing an existing database server

After you have created your database, set up the database client, and before you install Crystal Reports Server 2008 V1, ensure that the Central Management Server (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 opt to use an existing database, you will be prompted for the connection and authentication details by the Crystal Reports Server 2008 V1 installer:

Before you deploy web applications

Your web application server must be installed and must be working before you attempt to install Crystal Reports Server 2008 V1.

To deploy and run the Central Management Console (CMC) and InfoView web applications, your web application server should have at least 2 GB of free disk space, in addition to any other requirements for other software installed on the system.

Before deploying to a Java web application server

It is recommended that you change the heap size and maximum perm size settings of your Java Virtual Machine (JVM) to `-Xmx1024m -XX:MaxPermSize=256m`. For example, Tomcat uses the `JAVA_OPTS` environment variable to configure its JVM:

```
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 running correctly by launching its administrative console at:

```
http://<WAS_HOSTNAME>:<PORT>
```

Replace `<WAS_HOSTNAME>` with the hostname or IP address of your web application server, and `<PORT>` with the port number, if required.

Beginning the Installation of Crystal Reports Server 2008 V1

Installation checklist

Prior to installing Crystal Reports Server 2008 V1, review the following checklist:

- Have you tested that all systems that will run Crystal Reports Server 2008 V1 can communicate properly?
- Have you tested the database connection between the system where your CMS database will reside and where the Central Management Server will be installed?
- Have you decided which database to use with Crystal Reports Server 2008 V1?
- If you are using your own database server, have you created a database for the CMS?
- If you plan to connect remotely to install, have you ensured your terminal setting is set to VT100 before beginning the installation?
- If you are using your own database server and plan to use Auditor, have you created an auditing database?
- If you are using your own database server, have you created a userid and password with access to your existing database (if you are integrating your existing database server software), so that the installation can access your database to configure the CMS database?
- If you are using your own database server, have you made sure you can log on to the database with the ID and setup tables?
- Have you ensured that any existing database you will be connecting to has been configured correctly?
- Have you verified you are using a supported locale?
- Have you decided whether or not you will develop custom applications?
- Have you decided what web application server to use?
- If you are not using Tomcat, have you made sure your existing web application server has the JDK installed?

- If you are not using Tomcat, is your web application server already installed and configured?
- Do the Crystal Reports Server 2008 V1 system requirements match your Linux setup?
- If you are installing on a VMware virtual machine, have you ensured that the system name does not include underscore (_), period (.), or slash (/ or \) characters.
- Does the Linux user account under which the install is run have read, write, and execute permissions to the directory where Crystal Reports Server 2008 V1 will be installed?
- Have you sourced your database client so that all the required environment variables are set up properly?
- If you are using DB2 or Sybase, have you verified that your database was created with the correct settings? (Some settings can't be modified after the database has been created.)

Installation overview

Crystal Reports Server 2008 V1 allows you to run all server components on a Linux server. Users then connect to Crystal Reports Server 2008 V1 over the Web with a supported web browser. The installation can place the necessary run control scripts in the relevant directories for automated startup (requires root privileges), or you can confine the installation to a particular directory.

After you finish the installation and setup procedures, the various core server components run as background processes. You can then deploy the Crystal Reports Server 2008 V1 web applications.

When you install the Crystal Reports Server 2008 V1 server components on a Linux system, you can connect remotely to Crystal Reports Server 2008 V1 with the Publishing Wizard and the Import Wizard. However, these client applications must be installed on Windows.

Note:

Before you run the interactive installation setup program (`./install`), it is strongly recommended that you read through the details and procedures provided in the previous chapter.

Setting up product distribution

This section shows how to distribute Crystal Reports Server 2008 V1 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 connect remotely to install Crystal Reports Server 2008 V1, ensure you 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 your Linux system* on page 16

Running the product distribution directly from a DVD

By default, the installation will use your current directory, that is, the directory from which you run `install.sh` as the base directory for the installation. 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 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 system

By default, the installation will use your current directory, that is, the directory you run `install.sh` from, as its base directory for the install. You may want to copy the product distribution to directory on your system 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 for the installation files.

1. Log on to your Linux system under the new account designated for installing Crystal Reports Server 2008 V1.
2. Copy the installation files from the product distribution to a temporary directory with `/mnt/cd/install -t /tmp/` command, where `/mnt/cd` is mapped to the DVD drive and `tmp` is a temporary directory where you want to store the installation files.

Repeat this process for each DVD contained in the product distribution.

3. Proceed to [Beginning your installation](#) on page 48.
4. Run `install.sh` from the first DVD.

Related Topics

- [Creating an account, a home directory, and a login environment](#) on page 18

Beginning your installation

The following instructions lead you through the initial steps of installing Crystal Reports Server 2008 V1 on Linux. In this stage you will do the following:

- Choose the language for the installation.
- Agree to the license terms.
- Enter the product key codes.
- Select where to install Crystal Reports Server 2008 V1.
- Select which language packs to install.
- Choose between a user install and system install.

- Select an install type.

Beginning your installation

The installation procedure below is a quick overview of the initial steps required to install Crystal Reports Server 2008 V1 on Linux. This section is followed by a detailed description of each screen in the installation setup program.

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 installation files.

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:

- Chinese Simplified
- Chinese Traditional
- Danish
- Dutch
- English
- French
- German
- Italian
- Japanese
- Korean
- Norwegian
- Polish
- Portuguese (Brazil)
- Russian
- Spanish
- Swedish
- Thai

The "Business Objects License Agreement" is displayed.

Related Topics

- *Running the product distribution directly from a DVD* on page 47

Accepting the license agreement

To install Crystal Reports Server 2008 V1 on Linux, you must accept the Business Objects License Agreement.

1. Read the software license agreement.
2. Type **y** to agree to the terms and continue with the setup program.
The "Enter Product Keycode" screen is displayed.

Entering a product keycode

You must provide a valid Crystal Reports Server 2008 V1 product activation keycode to continue with the installation setup program.

1. Type your code in the **Product Keycode** field.
2. Press **Enter** to validate the keycode.

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

Specifying the installation directory

After your product keycode is validated, you must specify an installation directory.

Note:

If you are installing Crystal Reports Server 2008 V1 on a system that has an earlier version of Crystal Reports Server 2008 V1 installed, you must specify a different directory for the new installation.

1. To accept the default installation directory press **Enter**.

2. To create your own directory, use the **Backspace** key to remove the current directory and replace it with your own path to the desired installation directory and press **Enter**.

If the directory you specified does not exist, the following message appears: `This directory does not exist, do you want to create it?, press Enter.`

You are prompted to select which language packs to install.

Installing language packs

You can choose to install language packs when running the installation setup program on Linux.

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

The following languages are available:

- Chinese Simplified
- Chinese Traditional
- Danish
- Dutch
- English
- French
- German
- Italian
- Japanese
- Korean
- Norwegian
- Polish
- Portuguese (Brazil)
- Russian
- Spanish
- Swedish
- Thai

2. Press **Enter**.

Note:

You can also add language packs after installing Crystal Reports Server 2008 V1 on Linux.

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

Related Topics

- *Installing language packs* on page 100

Selecting user or system installation

1. Select the type of installation:

- **User**
- **System**

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. After you perform a System installation, there are a few additional steps you must perform.

2. Press **Enter**.

The "Installation Type" screen is displayed.

Related Topics

- *Difference between user and system installation* on page 19

Selecting an installation type

Perform the following steps to select an installation type:

1. Select the installation type.

- **New**

Performing a new installation is the simplest way to deploy Crystal Reports Server 2008 V1 because all the required components are installed by default onto one system.

- You can deselect **Enable servers after installation**. This prevents communication between the Central Management Server (CMS) and other servers after the installation is complete.

For more information on starting, stopping, disabling and enabling servers, refer to the *BusinessObjects Enterprise Administrator's Guide*.

2. Press **Enter**.

Related Topics

- *Performing a new installation* on page 55

New Installation

Performing a new installation

Performing a **New** installation is the simplest way to deploy Crystal Reports Server 2008 V1 because all the required and optional components are installed on one system.

The setup of a new installation of Crystal Reports Server 2008 V1 requires the following input:

1. Providing information on the system administrator for the new installation.
2. Setting up the system and auditing database. You can choose to either install and configure MySQL or configure your existing database.
3. Configuring the Server Intelligence Agent (SIA).
4. Setting up the web application server. You can choose to either install and configure a web application server or configure your existing web application server.
5. Confirming the installation directory.

Selecting a new installation

After you have completed the initial setup of the Crystal Reports Server 2008 V1, the "Installation Type" screen appears. To select a new installation:

1. Select **New**.
2. Select or deselect **Enable servers after installation**. This option is selected by default. Scroll down and use the spacebar to deselect the field.
3. Press **Enter**.

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

Related Topics

- *Beginning your installation* on page 48

Configuring a new CMS

Use the "Enter the information for your new CMS" screen to specify the Central Management Server (CMS) port number and password for the Crystal Reports Server 2008 V1 Administrator as shown below:

1. Type a valid port number in **CMS Port Number** or accept the default number 6400.
2. Type a password under **Administrator Password** and **Confirm Password** fields and press **Enter**.

Note:

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

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

Specifying a system database option

You must select a system database option. You can either choose to install MySQL or specify to use your current database.

1. Choose one of the following options:
 - **Use an existing database (Oracle/DB2/Sybase/MySQL)**
 - **Install MySQL**
2. Press **Enter**.

Depending on your selection, you will either select and configure your existing database or configure your MySQL installation.

Related Topics

- *Configuring your existing database* on page 57

- *Installing a new MySQL Database* on page 59

Configuring your existing database

If you have specified to use an existing database for the CMS, use the "Select the database type for your new CMS" screen to select your existing database type. You will then have to configure the database.

1. Select your database type. You can choose from the following:
 - **MySQL**
 - **Oracle**
 - **DB2**
 - **Sybase**

A new screen displays containing fields for configuring your database.

2. Provide information about your database and press **Enter**.

The following table lists the information required for each database type.

Database type	Information required
MySQL	Host Name User ID for CMS database Password for CMS database MySQL port number Database name for CMS
Oracle	TNS name User ID for CMS database Password for CMS database CMS port number

Database type	Information required
DB2	Alias name User ID for CMS database Password for CMS database
Sybase	Sybase Service name User ID for CMS database Password for CMS database

3. To enable an auditing database, type an **x** in the field provided.

Provide the information for your new auditing database as provided in the following table:

Database type	Information required
Auditing	Auditing database name User ID Password Note: If you are using Sybase as the auditing database, you must also provide the Auditing database port number.

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

Note:

Reinitialization of the Crystal Reports Server 2008 V1 database will erase all previous content in that particular database.

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

If you are using an existing database, you need to source your database environment variable so the CMS can access it after a system reboot. This can be done in one of the following ways:

- Someone with root access can modify the Crystal Reports Server 2008 V1 script `BobjEnterprise120` and add the command to source your database environment. This script can be found at the following location: `<INSTALLDIR>/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.

Related Topics

- *CMS Database requirements and preparation* on page 26

Installing a new MySQL Database

You need to provide configuration details for the new MySQL database. The setup program provides two screens to configure the new database.

1. Provide the following information for your new MySQL database and press **Enter**:
 - **MySQL Port Number**
The default port number is 3306.
 - **Database administrator password**
 - **Confirm Password**The second MySQL configuration screen is displayed.
2. Provide the following information for your new MySQL database and press **Enter**:
 - **MySQL CMS Database Name**
 - **User ID**

Note:

This is the Crystal Reports Server 2008 V1 user account.

- **Password for 'user' account**
 - **Confirm Password**
3. Press **Enter** to continue with the installation setup.
The "Enter Server Intelligence Agent information" screen is displayed.

Entering Server Intelligence Agent information

The Server Intelligence Agent (SIA) simplifies the deployment and management of the Crystal Reports Server 2008 V1 servers. The SIA is automatically created during installation of Crystal Reports Server 2008 V1. Use the installation setup program to configure the SIA.

1. Type a name in **Server Intelligence Agent Node**.

Note:

Do not use spaces or non-alphanumeric characters in an SIA node name.

This node name serves as an identifier for the SIA.

2. Type a valid port number in the **Server Intelligence Agent Port** field or accept the default port number 6410, and press **Enter**.

Selecting a web application server configuration option

As part of the installation setup, you need to provide information on the web application server that will work with your SAP BusinessObjects applications, such as InfoView and Central Management Console (CMC). You can use the installation program to either install Tomcat as your application server or choose to work with your existing web application server.

- Select one of the options listed below and press **Enter**.

Deployment option	When to use
Install Tomcat, deploy web applications	If you do not have an existing web application server.
Use existing Java application server, deploy web applications	If you have an existing supported web application server and you want to automatically deploy the web applications.
Use existing Java application server, do not deploy web applications	If you have an existing supported web application server and you want to manually deploy the web applications.

If you have selected either the first or second option, you will have to configure the web application server. If you have selected the third option, you can start the installation process.

Related Topics

- *Beginning the installation* on page 65
- *Configuring your existing web application server* on page 62
- *Configuring the Tomcat installation* on page 61

Configuring the Tomcat installation

If you chose to install the Tomcat application server, the "Please enter the port numbers for the Tomcat installation" screen is displayed. You must configure the server to use InfoView, the Central Management Console, and other web application servers.

1. You can either choose to accept the default port numbers or provide new port numbers for the following:
 - Receive HTTP requests
 - Redirect jsp requests
 - Shutdown hook

2. Press **Enter**.

You can now start the installation process.

Related Topics

- *Beginning the installation* on page 65

Configuring your existing web application server

If you selected the **Use existing Java application server, deploy web applications** option, the "Select a Web Application Server to deploy to" screen appears.

Select the server type before configuring your web application server.

1. Select your existing web application server from the following options and press **Enter**.
 - **Tomcat 5.5**
 - **WebLogic 10**
 - **WebLogic 9.2**
 - **WebSphere 6.1**
 - **Oracle Application Server 10g R3**

If your existing web application server is SAP Application Server 7.0 or JBoss 4.04, select **Use existing Java application server, do not deploy web applications** option.

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

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

The following table summarizes the information required for each supported web application server:

Web application server	Information required for installation setup
Apache Tomcat 5.5	<ul style="list-style-type: none"> • 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 9.2	<ul style="list-style-type: none"> • 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 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 Domain Root directory: The WebLogic domain root directory (for example, /bea/user_projects/domains/base_domain).
WebLogic 10	<ul style="list-style-type: none"> • 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 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 Domain Root directory: The WebLogic domain root directory (for example, /bea/weblogic10/user_projects/domains/base_domain).
WebSphere 6.1	

Web application server	Information required for installation setup
	<ul style="list-style-type: none"> • SOAP port: The SOAP Connector Port of the application server (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?: Select this option to enable security requiring administrative access credentials to the application. <p>Note: Values for the username and password parameters must be set when <i>Admin is Secure</i> is enabled.</p> <ul style="list-style-type: none"> • Application server installation directory: The directory where the web application server is installed (for example, /IBM/WebSphere/AppServer).
Oracle Application Server 10g R3	

Web application server	Information required for installation setup
	<ul style="list-style-type: none"> • Admin port: Administration port of the application server - mandatory for Oracle 10g R3 (for example, “6003”) .This should be the Request port of the <notification-server> element in the <code>opmn.xml</code> 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. <p>Note: If Admin is secure is not selected, you will still have to specify the username and password to access the server.</p> <ul style="list-style-type: none"> • 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, <code>/product/10.1.3/OracleAS_1</code>). • 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

- *Beginning the installation* on page 65

Beginning the installation

Perform the following steps to begin the installation:

1. 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.

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

The installation program will validate your system and install Crystal Reports Server 2008 V1 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.

Related Topics

- [Using `ccm.sh` to Start Crystal Reports Server 2008 V1](#) on page 95

Finishing a system installation

If you choose 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 start or stop the Crystal Reports Server 2008 V1 servers on system startup or shutdown.

Note:

To run the system installation, you must log on 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

Overview

There are two methods for running Crystal Reports Server 2008 V1 installations for Linux directly from the command line:

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

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

Note:

The silent installation without the response file is not recommended for custom installations. This method does not allow for the same level of customization provided when using a response file.

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

- *Creating a response file* on page 68
- *Scripted installation parameters* on page 75

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.

The response file supports the **New** installation type of Crystal Reports Server 2008 V1 available for Linux.

Tip:

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. In the command line type `./install.sh -w` and the file path for the response file you want to generate.

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

Note:

When specifying `responseFilePath` ensure 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 your 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.

Related Topics

- [Creating a response file](#) on page 68
- [Scripted installation parameters](#) on page 75

Sample response file

The following sample response file was generated for a new Crystal Reports Server 2008 V1 installation, in which MySQL and Tomcat were selected. The French language pack was added to the English default.

```
# Installation Response File
# -----
#
[Manual Settings]
# The name of the local server. This feature overrides the local
server name
# to the machine name specified. It must be manually set within
the response file
# or it will be defaulted to the local machine name.
MACHINENAME=

[Paths]
# The path of the bobje directory. This feature is automatically
set by
# the installation directory specified as a command line argu
ment followed
# by /bobje/.
BOBJEDIR="/net/home/businessobjectsenderprise/bobje/"

# The path of the DISK_1 directory on the CD. This path defaults
to the cd directory
# pertaining to the install which has created the response
file. It may be overwritten
# by specifying the cd directory as an argument on the command
line.
CDDIR=/net/home/temp

# The path of the license directory.
LICENSEDIR=

[Product Information]
# The current language with the following exceptions:
# 1) "jp" if the current language is "ja" (Japanese)
# 2) "chs" if the current language is "zh_CN" (Chinese -
China)
# 3) "cht" if the current language is "zh_TW" (Chinese - Taiwan)
BOBJELANG="en"
```

```

# The name of the product being installed.
PRODUCTID_NAME="BusinessObjects"

# The version of Business Objects Enterprise.
BOBJEVERSION="12.0"

# The version of the product being installed.
PRODUCTID_VER="12.1"

# The license key to install Business Objects Enterprise.
BOBJELICENSEKEY=XXXXX-XXXXXXX-XXXXXXX-XXXX

# The product id key. ( The product id is usually the same as
the BOBJELICENSEKEY )
PIDKEY=XXXXX-XXXXXXX-XXXXXXX-XXXX

[Installation Information]
# The installation function to perform. (i.e. install)
FUNCTION=install

# The type of installation. (i.e. new / custom / webtier )
INSTALLTYPE="new"

# A comma-delimited list of flags that describe the operating
mode of the Installer
# The following flags are supported:
# install      - running a new install of the product
# modify       - running a modify install on a previously in
stalled product
# remove       - running a uninstall of on a previously installed
product
# integrated   - the current install is running from within an
other installed (ie. integrated langpacks)
# interactive  - UI is enabled and can prompt for user response
INSTALLMODE=interactive,install

# The name of the local server.
LOCALNAMESESERVER="servername"

# Whether to perform a user or system install.
BOBJEINSTALLLOCAL="user"

# The language packs to install.
# Each language is specified using the short format and is
seperated by a space.
# Example: LANGPACKS_TO_INSTALL=en fr
LANGPACKS_TO_INSTALL=

# List of all languages included in the product.
# Each language is specified using the short format and is
seperated by a comma.

```

```

# Example: LANGUAGES_TO_INSTALL=en,fr
LANGUAGES_TO_IN
STALL=da,de,en,es,fr,it,ja,ko,nb,nl,pl,pt,ru,sv,th,zh_CN,zh_TW

# The Business Objects Enterprise username.
BOBJEUSERNAME="Administrator"

# Specified servers to add.
EXPANDSERVERS=

[Tomcat]
# Whether or not to install Tomcat.
INSTALLTOMCAT=yes

# The connection port.
CONNECTORPORT="8080"

# The redirection port.
REDIRECTPORT="8443"

# The shutdown port.
SHUTDOWNPORT="8005"

[Application Server]
# The path of the Application Server directory (If an Applica
tion Server
# is being installed). This path is automatically set using
the installation
# directory.
AS_DIR=/net/home/businessobjectsenderprise/bobje/tomcat/

# The Application Server name.
# Defaults to tomcat55 if Tomcat is to be installed.
AS_SERVER=tomcat55

# The instance of the Application Server. (e.g. localhost)
# Defaults to localhost if Tomcat is to be installed.
AS_INSTANCE=localhost

# The Application Server virtual host.
AS_VIRTUAL_HOST=

# The Application Server port.
AS_ADMIN_PORT=

# The Application Server's Administrator Username.
AS_ADMIN_USERNAME=

# The Application Server's Administrator Password.
AS_ADMIN_PASSWORD=

```

```

# Whether or not the Application Server's Administrator is secure.
AS_ADMIN_IS_SECURE=

# The Application Server's Name (Oracle AS only).
AS_APPSERVER_ID=

# The Application Server's Group Id (Oracle AS only).
AS_GROUP_ID=

# The Application Server deployment action. (i.e. deploy or predeploy)
WDEPLOYACTION=deploy

[CMS Cluster]
# Whether or not to cluster the CMS.
CMSCLUSTER="no"

# The CMS name to cluster to.
CLUSTER_NAMESERVER=""

# The CMS port number to cluster to.
CLUSTERPORTNUMBER="6400"

[CMS]
# The type of database. (e.g. MySQL, DB2, Oracle)
DBTYPE="MySQL"

# The service name of the CMS.
SERVICENAME="BOE120"

# The username to connect to the database.
DATABASEUID=""Administrator"

# The password to connect to the database.
DATABASEPWD=password

# The name of the CMS server.
CMSNAMESERVER="servername"

# The port number used to communicate with the CMS.
CMSPORTNUMBER="6600"

# The password used to connect to the CMS.
CMSPASSWORD=password

# The server intelligence agent node name.
SIANODENAME="mynode"

```

```

# The port used to communicate with the server intelligence
agent.
SIAPORTNUMBER="6410"

# Whether or not to reinitialize the database.
REINIT="yes"

[MySQL]
# Whether or not to install MySQL
INSTALLMYSQL="yes"

# The port number used to communicate with the MySQL database.
SERVICEPORT="3306"

# The name of the server hosting the MySQL database.
MYSQLHOSTNAME="servername"

# The root password for the MySQL database.
MYSQLROOTPWD=password

[Audit]
# Whether or not auditing is enabled.
AUDITINGENABLED=yes

# The service audit name of the CMS.
SERVICENAME_AUDIT="BOE120_AUDIT"

# The port number used to communicate with the MySQL database.
SERVICEPORT_AUDIT="3306"

# The name of the server hosting the MySQL database.
MYSQLHOSTNAME_AUDIT="servername"

# The audit username to connect to the database.
DATABASEUID_AUDIT=Administrator

# The audit password to connect to the database.
DATABASEPWD_AUDIT=password

[Marketing Products]
# This feature manually enables specified marketing products.
  Each marketing product
# specified must be seperated by a comma.
# For a custom install this field is used to enable those
products which are different from a default new installation.
# Example: ENABLEMP=BusinessObjects.MySQL,BusinessOb
jects.WebTierComponents
ENABLEMP=

```

```
# This feature manually disables specified marketing products.
# Each marketing product
# specified must be separated by a comma.
# For a custom install this field is used to disable those
# products which are different from a default new installation.
# Example: DISABLEMP=BusinessObjects.MySQL,BusinessOb
# jects.WebTierComponents
DISABLEMP=

[New Settings]
# All uncommented settings are added here.
DBTYPE_AUDIT="MySQL"
```

Note:

Do not use spaces or non-alphanumeric characters in an SIA node name.

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

```
./install.sh -r <filename> -I /<INSTALLDIR>/ -s /<SOURCEDIR>/
```

Running a scripted installation

You need to have a response file in a known directory. The MACHINENAME parameter must be specified in the response file if you are replicating an installation. If the parameter is not specified, the local server name is 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. In the command-line prompt type the following information:

```
install.sh -r <filename> -I /<INSTALLDIR>/ -s /<SOURCEDIR>/
```

- `-r <filename>` specifies the name of the response file you want the installation setup to read for installation parameters.
- `-I <INSTALLDIR>` specifies the installation directory for the scripted installation.

- `-s <SOURCE DIR>` is an optional command that specifies the location of the `cd` directory. The source directory must point to the location of `DISK_1` in the installation DVD. If not specified, the DVD directory setting in the response file will be used.

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

Related Topics

- *Setting up product distribution* on page 47

Scripted installation parameters

The following table lists the most common parameters used in Crystal Reports Server 2008 V1 installation scripts. These parameters are saved in a file which is used to run scripted installations of Crystal Reports Server 2008 V1 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
MACHINENAME	Name of the system on which to run the scripted installation. The setting overrides the local server name. If not specified, the local system name is used. <code>MACHINENAME="mymachine"</code>
BOBJEDIR	Path of the <code>bobje</code> directory that is automatically setup in the installation directory. <code>BOBJEDIR="<INSTALLDIR>/bobje/"</code>

Parameter	Description
CDDIR	<p>Path to the DISK_1 directory on the distribution DVD. This path defaults to the DVD directory.</p> <pre>CDDIR="<CD>/BusinessObjects/DISK_1"</pre>
LICENSEDIR	<p>Path to the directory containing the product license.</p> <pre>LICENSEDIR="<INSTALLDIR>/LICENSEDIR/"</pre>
BOBJELANG	<p>The language setting used for the installation setup.</p> <ul style="list-style-type: none"> • 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 • it=Italian • th=Thai • pl=Polish • da=Danish • no=Norwegian <pre>BOBJELANG="en"</pre>

Parameter	Description
BOBJELICENSEKEY	<p>Specifies the product activation keycode for the product to be installed.</p> <pre>BOBJELICENSEKEY=XXXXX-XXXXXXX-XXXXXXX</pre>
PIDKEY	<p>The product id key - same as the BOBJELICENSEKEY</p> <pre>PIDKEY =XXXXX-XXXXXXX-XXXXXXX</pre>
INSTALLTYPE	<p>Specifies the type of installation to perform. This parameter supports the following options:</p> <ul style="list-style-type: none"> • new <pre>INSTALLTYPE="new"</pre>
INSTALLMODE	<p>Specifies a comma-delimited list for the Crystal Reports Server 2008 V1 installation program operating modes. This parameter supports the following options:</p> <ul style="list-style-type: none"> • install • modify • remove • integrated • interactive <pre>INSTALLMODE=interactive,install</pre>
LOCALNAME SERVER	<p>Specifies the name of the local server</p> <pre>LOCALNAME SERVER="myservername"</pre>

Parameter	Description
BOBJEINSTALLLOCAL	<p>Specifies to perform either a user or system installation.</p> <pre>BOBJEINSTALLLOCAL="user"</pre>
LANGPACKS_TO_INSTALL	<p>Specifies the language packs to install. Each language pack is specified in the short format and is separated by a space.</p> <ul style="list-style-type: none"> • en=English • zh_CN=Simplified Chinese • zh_TW=Traditional Chinese • de=German • es=Spanish • ko=Korean • nl=Dutch • jp=Japanese • sv=Swedish • ru=Russian • fr=French • it=Italian • th=Thai • pl=Polish • da=Danish • no=Norwegian • pt=Portuguese <pre>LANGPACKS_TO_INSTALL="en fr"</pre>
BOBJEUSERNAME	<p>Specifies the Crystal Reports Server 2008 V1 username.</p> <pre>BOBJEUSERNAME="username"</pre>

Parameter	Description
INSTALLTOMCAT	<p>Specifies to either install or not to install Tomcat.</p> <pre>INSTALLTOMCAT="yes"</pre>
CONNECTORPORT	<p>Specifies the connection port for the Tomcat server.</p> <pre>CONNECTORPORT="15037"</pre>
REDIRECTPORT	<p>Specifies the redirection port for the Tomcat server.</p> <pre>REDIRECTPORT="15034"</pre>
SHUTDOWNPORT	<p>Specifies the shutdown port for the Tomcat server.</p> <pre>SHUTDOWNPORT="15024"</pre>
AS_DIR	<p>Specifies the path of the application server directory if the server is being installed. The path is automatically set by using the installation directory.</p> <pre>AS_DIR="<INSTALLDIR>/bobje/tomcat/"</pre>

Parameter	Description
AS_SERVER	<p>Specifies the name of the application server being installed. The available options are:</p> <ul style="list-style-type: none"> • Use tomcat55 for Tomcat • Use oas1013 for Oracle Application Server 10g R3 • Use weblogic9 for WebLogic 9.2 • Use weblogic10 for WebLogic 10 • Use websphere6 for WebSphere 6.1 <pre>AS_SERVER="tomcat55"</pre>
AS_INSTANCE	<p>Specifies the name of the current web application server instance.</p> <pre>AS_INSTANCE="localhost"</pre>
AS_VIRTUAL_HOST	<p>Specifies virtual host to which the application must be bound.</p> <pre>AS_VIRTUAL_HOST="hostname"</pre>
AS_ADMIN_PORT	<p>Specifies the port used by the web application server.</p> <pre>AS_ADMIN_PORT="8080"</pre>
AS_ADMIN_USERNAME	<p>Specifies the account name used by the administrator to access the web application server.</p> <pre>AS_ADMIN_USERNAME="admin"</pre>

Parameter	Description
AS_ADMIN_PASSWORD	<p>Password used by the administrator account to access the web application server.</p> <pre>AS_ADMIN_PASSWORD="pass"</pre>
AS_ADMIN_IS_SECURE	<p>Specifies that an administrator credential must be passed to access the web application server. This setting is only valid for WebSphere 6 and Oracle.</p> <pre>AS_ADMIN_IS_SECURE="true"</pre>
WDEPLOYACTION	<p>Specifies the action to perform on the application server. The available options are:</p> <ul style="list-style-type: none"> • deploy • predeploy • none <pre>WDEPLOYACTION="deploy"</pre>
DBTYPE	<p>Specifies the type of database used by the CMS. The available options are:</p> <ul style="list-style-type: none"> • MySQL • DB2 • Oracle • Sybase <pre>DBTYPE="MySQL"</pre>

Parameter	Description
SERVICENAME	<p>Specifies the service name for the CMS.</p> <p><code>SERVICENAME="BOE953"</code></p>
DATABASEUID	<p>Specifies the username to connect to the database.</p> <p><code>DATABASEUID="username"</code></p>
DATABASEPWD	<p>Specifies the password to connect to the database.</p> <p><code>DATABASEPWD="password"</code></p>
CMSNAMESEVER	<p>Specifies the name of the CMS server.</p> <p><code>CMSNAMESEVER="servername"</code></p>
CMSPORTNUMBER	<p>Specifies the port number used to communicate with the CMS.</p> <p><code>CMSPORTNUMBER="14000"</code></p>
CMSPASSWORD	<p>Specifies the password used to connect to the CMS.</p> <p><code>CMSPASSWORD="password"</code></p>

Parameter	Description
SIANODENAME	<p>Specifies the node name for the Server Intelligence Agent (SIA).</p> <p><code>SIANODENAME="name"</code></p> <p>Note: Do not use spaces or non-alphanumeric characters in an SIA node name.</p>
SIAPORTNUMBER	<p>Specifies the port used by the Server Intelligence Agent.</p> <p><code>SIAPORTNUMBER="14090"</code></p>
REINIT	<p>Specifies to or not to reinitialize the database.</p> <p><code>REINIT="yes"</code></p>
INSTALLMYSQL	<p>Specifies to or not to install MySQL as the system database.</p> <p><code>INSTALLMYSQL="yes"</code></p>
SERVICEPORT	<p>Specifies the port number used to communicate with the MySQL database.</p> <p><code>SERVICEPORT="15036"</code></p>
MYSQLYHOSTNAME	<p>Specifies the name of the server hosting the MySQL database.</p> <p><code>MYSQLYHOSTNAME="servername"</code></p>

Parameter	Description
MYSQLROOTPWD	<p>Specifies the root password for the MySQL database.</p> <pre>MYSQLROOTPWD="password"</pre>
AUDITINGENABLED	<p>Specifies if auditing is or is not enabled for the CMS.</p> <pre>AUDITINGENABLED="yes"</pre>
SERVICENAME_AUDIT	<p>Specifies the service audit name used by the CMS.</p> <pre>SERVICENAME_AUDIT="servicename"</pre>
SERVICEPORT_AUDIT	<p>Specifies the port number used to communicate with the auditing database.</p> <pre>SERVICEPORT_AUDIT="12133"</pre>
MYSQLHOSTNAME_AUDIT	<p>Specifies the name of the server hosting the MySQL auditing database.</p> <pre>MYSQLHOSTNAME_AUDIT="server name"</pre>
DATABASEUID_AUDIT	<p>Specifies the user name used to connect to the auditing database.</p> <pre>DATABASEUID_AUDIT="username"</pre>
DATABASEPWD_AUDIT	<p>Specifies the password used to connect to the auditing database.</p> <pre>DATABASEPWD_AUDIT="password"</pre>

Parameter	Description
ENABLEMP	<p>Specifies which specific products to manually enable. Each product must be separated by a comma. For a custom installation this setting is used to enable those products typically not installed in a new installation.</p> <pre data-bbox="740 560 1177 612">ENABLEMP=BusinessObjects.WebTierComponents,</pre>
DISABLEMP	<p>Specifies which specific products to manually disable. Each product must be separated by a comma. For a custom installation this setting is used to disable those products typically not installed in a new installation.</p> <pre data-bbox="740 928 1177 980">DISABLEMP=ENABLEMP=BusinessObjects.WebTierComponents,</pre>

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 68

Performing a silent installation

You can run a silent installation from the command line to automatically install Crystal Reports Server 2008 V1 on 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 systems, you can add the silent Crystal Reports Server 2008 V1 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.

The following example performs an English new user installation with the following configuration:

- Crystal Reports Server 2008 V1
- Tomcat
- MySQL
- Auditor

- Database reinitialized

```
./install.sh -c en -INSTALLDIR /program/business/
boe_120 -BOBJLICENSEKEY XXXXX-XXXXXXXX-XXXXXXXX-XXXX
-BOBJEINSTALLLOCAL user -INSTALLTYPE new -CMSPORTNUMBER 13888

-DBTYPE MySQL -SERVICENAME boe -INSTALLMYSQL yes -DATABASEUID
username -DATABASEPWD sa -REINIT yes -MYSQLROOTPWD sa
-SERVICENAME_AUDIT audit -DATABASEUID_AUDIT hsmith
-DATABASEPWD_AUDIT sa123 -SIANODENAME=MyNode
-SIAPORTNUMBER=6410 -INSTALLTOMCAT yes
-TOMCATCONNECTORPORT 13890 -TOMCATREDIRECTPORT 13889
-TOMCATSHUTDOWNPORT 13891 -AUDITINGENABLED yes
-DASENABLED yes
```

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.

When you run a silent installation, you need to run the command once for each DVD, but you only need to provide the full list of options for the first DVD. For example, if the DVDs are on different drives, the commands are as shown below:

```
./install.sh -s /mnt/cd1 -INSTALLDIR /mymachine/
BOBJ/Enterprise120 -BOBJLICENSEKEY XXXXX-XXXXXXXX-XXXXXXXX-XXXX
-INSTALLTYPE new -BOBJEINSTALLLOCAL user -CMSPORTNUMBER 6401
-DBTYPE Oracle -SERVICENAME tnsname -DATABASEUID userid
-DATABASEPWD password -REINIT yes -SIANODENAME=MyNode
-SIAPORTNUMBER=6410 -INSTALLTOMCAT yes
-TOMCATCONNECTORPORT 8080 -TOMCATREDIRECTPORT 8443
-TOMCATSHUTDOWNPORT 8005

./install.sh -s /mnt/cd2 -INSTALLDIR /mymachine/BOBJ/
Enterprise120

./install -s /mnt/cd3 -INSTALLDIR /mymachine/BOBJ/Enterprise120
```

The following table lists the most common parameters used in a silent installation. To use a parameter, enter it on the command line after the `./install.sh` command and the path for the installation files.

Note:

Parameter values are case-sensitive.

Installation parameter	Description
<code>-s <i>filepath</i></code>	<p>The location of the DVD used to run the installation. Replace <i>filepath</i> with the full path for the DVD drive or other installation source directory. For example, <code>-s /mnt/CD1/</code></p>
<code>-INSTALLDIR <i>filepath</i></code>	<p>Specifies the directory where you want to install the new Crystal Reports Server 2008 V1 components. Replace <i>filepath</i> with the full path of the installation directory. For example, <code>-INSTALLDIR /BOBJE/Enterprise120.</code></p>
<code>-BOBJELICENSEKEY XXXXX-XXXXXXX- XXXXXXX-XXXX</code>	<p>Required to activate the product license for your product.</p>
<code>-DASENABLED</code>	<p>Enables you to install Dashboard and Analytics servers without a keycode. The options are “yes” and “no”; the default setting is “no”.</p> <p>Note: The Dashboard and Analytics servers will be disabled until you enter an appropriate keycode through the Central Management Console (CMC).</p>

Installation parameter	Description
<p><i>-c language code</i></p>	<p>This option determines the language for the installation. Replace <i>languagecode</i> with a language code for one of the supported languages:</p> <ul style="list-style-type: none"> • en=English • zh_CN=Simplified Chinese • zh_TW=Traditional Chinese • de=German • es=Spanish • ko=Korean • nl=Dutch • jp=Japanese • ru=Russian • fr=French • it=Italian • th=Thai • pl=Polish • da=Danish • no=Norwegian • sv=Swedish • pt=Portuguese
<p>-SIANODENAME</p>	<p>Specifies the Server Intelligence Agent (SIA) node name to use for the installation.</p> <p>Note: Do not use spaces or non-alphanumeric characters in an SIA node name.</p>
<p>-SIAPORTNUMBER</p>	<p>Specifies the port used by the SIA.</p>
<p>-INSTALLTYPE</p>	<p>Specifies the type of installation. The possible value is:</p> <ul style="list-style-type: none"> • new

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. For a custom installation this setting is used to enable those products typically not installed in a new installation.
-BOBJEINSTALLLOCAL	Specifies whether to perform a user or a system installation. The options are user or system; user is the default.
-CMSNAMESESERVER	Specifies the name of an existing CMS to use for either a custom or web tier installation.
-CMSPORTNUMBER	Specifies the port number for the Central Management Server. If not specified, the default is 6400.
-CMSPASSWORD	Specifies the administrator password for an existing CMS to use in either a custom or web tier installation.

Installation parameter	Description
-DBTYPE	<p>When installing a Central Management Server, you need to specify the type of database you want to use. Possible values include:</p> <ul style="list-style-type: none"> • Oracle • DB2 • Sybase • MySQL
-INSTALLMYSQL	<p>When installing a Central Management Server, you can specify whether or not to install and configure a new MySQL database. The options are <code>yes</code> or <code>no</code>; <code>no</code> is the default.</p>
-MYSQLHOSTNAME	<p>Specifies the name of the system hosting the MySQL server.</p>
-SERVICENAME	<p>Specifies the service name used to connect to the Central Management Server database.</p>
-SERVICEPORT	<p>Specifies the port number used to connect to the Central Management Server database. This is required only for MySQL databases.</p>
-DATABASEUID	<p>Specifies the user ID used to connect to the Central Management Server database. This option cannot be set to <code>root</code> if the <code>-INSTALLMYSQL</code> option is set to <code>yes</code>.</p>
-DATABASEPWD	<p>Specifies the password used to connect to the Central Management Server database. If this option is not specified, it defaults to blank.</p>

Installation parameter	Description
-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.
-AUDITINGENABLED	Specifies if the auditing database is configured during your installation setup. The two options are yes and no. If this option is not specified, it defaults to no.
-SERVICENAME_AUDIT	Modifies the name of the MySQL auditing database, otherwise the default name of BOE120_Audit will be used
-DATABASEUID_AUDIT	Use this parameter to pass the user ID for the auditing database.
-DATABASEPWD_AUDIT	Specifies the password for the auditing database server.
-MYSQLHOSTNAME_AUDIT	Specifies the host name for the MySQL server for your auditing database.
-DBTYPE_AUDIT	Specifies an existing auditing database type from one of the following options: <ul style="list-style-type: none"> • Oracle • DB2 • Sybase • MySQL
-SERVICEPORT_AUDIT	Specifies the port for the MySQL auditing database server.
-SYBASEHOSTNAME_AU DIT	Specifies the name of the system hosting the Sybase auditing database.

Installation parameter	Description
-SYBASEPORT_AUDIT	Specifies the port number used by the Sybase auditing database.
-REINIT	Specifies whether to reinitialize the Central Management Server database. The options are <code>yes</code> or <code>no</code> ; <code>yes</code> is the default.
-INSTALLTOMCAT	Specifies if Tomcat is to be installed as the web application server. The default value is <code>no</code> .
-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 V1

Using `ccm.sh` to Start Crystal Reports Server 2008 V1

The `ccm.sh` script provides you with a command-line interface to the various Crystal Reports Server 2008 V1 server components. For more information about this script and others that are installed on your system, see *BusinessObjects Enterprise Administrator's Guide*.

In Crystal Reports Server 2008 V1, the installation setup program starts and enables servers automatically. The following information is included only as a reference.

Viewing additional help on `ccm.sh`

The `ccm.sh` script provides a detailed description of its command-line options. Execute the following command to see the help:

```
<INSTALLDIR>/bobje/ccm.sh -help | more
```

To manually start and enable the servers

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

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

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

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

3. Open a web browser for 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 SAP BusinessObjects Administrator credentials.
5. Navigate to the "Servers" page.
6. Select the server you want to start.
7. Select **Start Server**.

The server should now start.

To check if the CMS is running

After installing Crystal Reports Server 2008 V1, you can validate if the Central Management Server (CMS) is running by performing the following steps:

1. CD to the `bobje` directory in your installation.
2. Enter `./ccm.sh -display -cms <hostname>:<port>`.

Note:

It is not necessary to provide the CMS hostname and port if you have specified the default port during installation.

A list of running servers is displayed. Ensure that the CMS is running.

Post install component deployment

When you install Tomcat as part of your Crystal Reports Server 2008 V1 installation, Crystal Reports Server 2008 V1 web applications (for example, InfoView and CMC) and the Crystal Reports Server 2008 V1 SDK are 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) enables you to perform user and server management tasks such as setting up authentication, starting servers, and adding users and groups. The Crystal Reports Server 2008 V1 SDKs are used by many Crystal Reports Server 2008 V1 components and are also used to simplify the development of custom Crystal Reports Server 2008 V1 applications.

If you do not install Tomcat when you install Crystal Reports Server 2008 V1, 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, see *BusinessObjects Enterprise Web Application Deployment Guide for UNIX*.

For more information about the system architecture of an installation of Crystal Reports Server 2008 V1, see the "Architecture" section in *BusinessObjects Enterprise Administrator's Guide*.

Note:

If you have a firewall between the system running your web application server and your other Crystal Reports Server 2008 V1 servers you must perform additional system configuration. For more information, see "How to configure firewalls" section, in the *BusinessObjects Enterprise Administrator's Guide*.

Language Packs

About language packs

A language pack is a resource package that gives a Crystal Reports Server 2008 V1 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. English is a default language pack.

English language fall back

In the event of a localization error, such as a missing, corrupted, or uninstalled language pack, Crystal Reports Server 2008 V1 products fall back to the default English language. If a preferred language has not been set in the Product Locale drop-down, Crystal Reports Server 2008 V1 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, English is used as default.

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 only displayed when client is restarted. For example, setting the Crystal Report Designer product locale to Japanese will cause the Business Intelligence Modeler client to also display in Japanese. However, if the Business Intelligence Modeler is running at the time of the change, it must be restarted in order for the change to take effect.

Installing language with complex deployments

If your organization uses a Crystal Reports Server 2008 V1 deployment with more than one server, you will need to deploy language packs to each server individually.

Installing language packs

Language packs can be installed either during the initial installation of Crystal Reports Server 2008 V1 or post-install using a dedicated language pack installation program. The installation program is a script that adds the localized language resources to your SAP BusinessObjects software deployment.

English is the default option during the installation of Crystal Reports Server 2008 V1, and administrators can opt to install any or all of the other available languages. Additional languages can also be installed onto an existing system by downloading the appropriate language pack from the SAP BusinessObjects support website at <https://service.sap.com>.

In the event of an operational problem with a language pack, Crystal Reports Server 2008 V1 will default back to English localization. Because of this fall-back system, English cannot be deselected during the installation of Crystal Reports Server 2008 V1.

Note:

An error message is displayed if a language pack detects that it is incompatible with a previously installed version of Crystal Reports Server 2008 V1.

Locating language packs

Language packs can be found in the `langs` folder of the Crystal Reports Server 2008 V1 for Linux distribution package.

Alternatively, language packs can be downloaded from the SAP BusinessObjects technical support site at <https://service.sap.com>.

Installing language packs

Before installing a language pack, your Crystal Reports Server 2008 V1 server must be running and patched to the required revision level. You will be asked for CMS administrator credentials. If any part of your Crystal Reports Server 2008 V1 deployment is not patched to the required software version, the language pack installation will abort and must be reapplied after the system has been patched to the correct level.

You can review the requirements for language packs at the SAP BusinessObjects customer support site at <https://service.sap.com/>.

Note:

Language packs do not require a keycode.

To install language packs, perform the following steps:

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_DISTRIBUTION_CD_DIR/langs/LANGUAGE/DISK_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 2008 V1 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 2008 V1 install directory.

Once the installation is complete, you will be able to choose the installed language from the **Options** dialog window in Crystal Reports Server 2008 V1 applications.

Note:

- All fix packs or other updates to Crystal Reports Server 2008 V1 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 your Crystal Reports Server 2008 V1 deployment.

Installing language packs across Crystal Reports Server 2008 V1 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 appropriate parameters are entered in the command-line, the installation will not prompt for information.

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

```
install.sh BUSINESS_OBJECTS_HOME_DIR
INSTALLMODE=silent,install
CMSNAMESEVER=CMS_HOSTNAME
CMSPORTNUMBER=PORT_NUMBER
CMSPASSWORD=CMS_PASSWORD
```

Replace *BUSINESS_OBJECTS_HOME_DIR* with the full path of your Crystal Reports Server 2008 V1 installation. The following table details each of the parameters used by `install.sh`.

Parameter	Expected argument	Description
<i>INSTALLMODE</i>	"silent"	Switch to enable silent install mode
<i>CMSNAMESEVER</i>	CMS Hostname	Enter the name of your CMS system.
<i>CMSPORTNUMBER</i>	Port number for CMS	CMS port number.
<i>CMPASSWORD</i>	CMS admin password	The password for your CMS server.

You must also specify parameters for your web application server. The specific parameters that you must use depend on the web application server that you use.

For example, on WebLogic 9.2 the following parameters must be specified:

```
$ ./install.sh /opt/bobje
INSTALLMODE=silent,install
CMSNAMESEVER=myserver1
CMSPORTNUMBER=6400
CMPASSWORD=myspassword
AS_SERVER=weblogic9
AS_DIR=/opt/boa/user_projects/domains/base_domain
AS_INSTANCE=AdminServer
AS_ADMIN_PORT=7001
AS_ADMIN_USERNAME=weblogic
AS_ADMIN_PASSWORD=weblogic
```

To uninstall language packs, 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/boa/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/boa/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 *BusinessObjects Enterprise Web Application Deployment Guide for UNIX*.

Selecting a language

Once installed, Crystal Reports Server 2008 V1 detects the existence of the language packs. You can choose a language from a list of installed languages found in the **Product Locale** drop-down list of the **CMC Preferences** section, or under the **Options** dialog box on the toolbar or application menu in other Crystal Reports Server 2008 V1 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.

Uninstalling language packs

To uninstall language packs, perform the following steps:

1. Run the `./AddOrRemoveProducts.sh` script.
2. On the "Choose Product to Modify" screen, select the language pack that you want to uninstall, and press **Enter**.

3. On the "Enter information for existing CMS" screen, specify the CMS Hostname, CMS Port, and Existing CMS Administrator Password, and then press **Enter**.
4. Press **Enter** to confirm the removal of the language pack.

International Deployments

International deployments overview

When you distribute reports to a worldwide audience, you need to accommodate users working in various languages, time zones, and countries. Crystal Reports Server 2008 V1 provides a powerful capabilities for presenting data in a number of languages. This chapter provides recommendations for creating and managing content deployed through Crystal Reports Server 2008 V1 to a multilingual, worldwide audience.

International deployments require thorough planning, from choosing the best server configuration to adopting special report design techniques. To support multiple languages in Crystal Reports Server 2008 V1, you need to ensure that the servers have the appropriate resources for delivering content in different languages. Also, you can create flexible reports that allows you to choose between different languages or formats.

Note:

For large Crystal Reports Server 2008 V1 deployments, it is good practice to work with our global team of certified consultants and consulting partners. For more information, contact your SAP BusinessObjects sales representative.

Deploying Crystal Reports Server 2008 V1 internationally

Deploying a Crystal Reports Server 2008 V1 system for an international audience introduces a unique set of challenges. When you increase support to address a specific user need such as a new language, you may need to increase the complexity of your deployment.

Many problems can be avoided by planning the Crystal Reports Server 2008 V1 deployment in advance. How much multilingual support do your users

need? Do you have the people, processes, hardware, and software in place to provide an international Crystal Reports Server 2008 V1 system?

When you have determined the best approach, you can configure the available resources to deliver the best possible Crystal Reports Server 2008 V1 solution for your users.

Planning an international Crystal Reports Server 2008 V1 deployment

To ensure that your deployment is successful, you need to thoroughly plan the deployment with international considerations in mind.

Assess the language needs of your users. Begin with a comprehensive list of job tasks and other user requirements. Then ensure that you have the appropriate resources for delivering Crystal Reports Server 2008 V1 to all of your users, and for maintaining its future growth.

Languages

A quick survey of your organization should provide enough information to determine your language requirements. Which languages are used most often across the organization? Is there a demand for reports in all of these languages? Which languages does your organization currently support on its web site? How many languages do your report users speak? It may be necessary to provide reports in only two or three languages.

Make sure you check your language requirements against the list of supported languages for Crystal Reports Server 2008 V1. Crystal Reports Server 2008 V1 software provides components for the following languages:

- Chinese Simplified
- Chinese Traditional
- Danish
- Dutch
- English
- French
- German
- Italian

- Japanese
- Korean
- Norwegian
- Polish
- Portuguese (Brazil)
- Russian
- Spanish
- Swedish
- Thai

For these languages, the software itself has been translated (or localized), with all functions and features available in the specific language.

Resources

After you determine which languages are required, look at the resources required to implement the different server configurations that will meet the language needs of your users.

You can provide separate Crystal Reports Server 2008 V1 deployments for each language, or you can ask users to create reports in one language and deliver them using servers in another language. Do you have the resources and people you need to manage multiple systems or can you support only one Crystal Reports Server 2008 V1 deployment?

For any deployment that involves more than one language, you must account for additional server requirements. For example, if you run an English version of Crystal Reports Server 2008 V1 on a multilingual operating system, you must ensure that you have the correct combination of components for both languages.

You should choose the right deployment based on the available resources. For each server, ensure that you have the appropriate operating system, fonts, and language files.

- Languages

Install the appropriate languages on all servers. Even if only a few users design reports in Spanish and Japanese, Spanish and Japanese language files must be installed on all servers used in the deployment.

For information on installing languages, consult your operating system's documentation.

- **Fonts**

If a language requires a special font, install the font files on all systems running Crystal Reports Server 2008 V1 components. For information on installing fonts, consult your operating system's documentation.

Note:

- Depending on the languages, data may not be displayed properly. For example, if you publish reports in a "double-byte" language like Japanese to an English server, the double-byte characters may not display properly in chart titles, drill-down tabs, group tree values, and strings in formulas. These strings use the system font specified by the server to display text. Unless the system font supports doublebyte characters, Crystal Reports Server 2008 V1 will not display the strings properly.
- If, after installing the necessary fonts on the various servers, Crystal Reports Server 2008 V1 does not render the report properly, install Crystal Reports on the problematic servers. Then, open the problem report and refresh it.

- **Operating systems**

Depending on your language needs, you may need to install a localized operating system on systems running Crystal Reports Server 2008 V1 components. The operating system may affect certain messages that appear when working with Crystal Reports Server 2008 V1. To ensure that all messages appear in the language you want, make sure you install the appropriate version of the operating system, and make sure it is a language supported by Crystal Reports Server 2008 V1.

For example, if you access French reports from a French client using an English version of Crystal Reports Server 2008 V1 on the server, you must have a French operating system on the server.

- **People**

Depending on your configuration, you may need additional people to help deliver and maintain your Crystal Reports Server 2008 V1 system. If you deploy multiple systems for different languages, you may need another system administrator or IT professional to configure and maintain the

system. When you are working with localized versions of operating systems and software, it is good practice to have someone on staff who not only has the technical IT skills, but also the language skills required to manage the system.

Maintaining your Installation

The installation log file

The installation log files contain information on all the parameter settings used in a Crystal Reports Server 2008 V1 installation. The log files can be used as a reference or to troubleshoot installation errors. The name of the initial log files are `BusinessObjects.12.1.0.log` and `BusinessObjects.12.1.0.log.summary`. The `BusinessObjects.12.1.0.log` file contains detailed information on installation and deployment. Both files are saved in the `<INSTALLDIR>/setup/logs/` directory.

Uninstalling Crystal Reports Server 2008 V1 from Linux

Before you remove Crystal Reports Server 2008 V1 from your Linux system, you must run the `AddOrRemoveProducts.sh` script. The script is installed to the directory of your installation and is used to add or remove Crystal Reports Server 2008 V1 products or components.

This script stops all Crystal Reports Server 2008 V1 servers and processes. It then deletes the files copied from the product DVD during your original installation of Crystal Reports Server 2008 V1.

A Crystal Reports Server 2008 V1 installation creates a number of additional files on your system. When you uninstall Crystal Reports Server 2008 V1, 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 2008 V1. These log files can be useful for diagnosing problems with previous installations.

Uninstalling Crystal Reports Server 2008 V1

Before removing Crystal Reports Server 2008 V1 from your Linux system, you must uninstall all language packs used by the installation.

To uninstall Crystal Reports Server 2008 V1, perform the following steps:

1. From the installation directory run `./AddOrRemoveProducts.sh`.
The "Add or Remove Programs" screen is displayed.
2. Select Crystal Reports Server 2008 V1 and press **Enter**.
The "Add Features or Uninstall Current Product" screen is displayed.
3. Select **Uninstall Product** and press **Enter**.
A confirmation screen is displayed.
4. Select **Yes** and press **Enter**.
The uninstallation process begins.

To completely remove all Crystal Reports Server 2008 V1 files, execute an `rm -Rf` command on the `boobje` directory.

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

Related Topics

- [Uninstalling language packs](#) on page 104

More Information

Information Resource	Location
SAP BusinessObjects product information	http://www.sap.com
SAP Help Portal	<p>Select http://help.sap.com > SAP BusinessObjects.</p> <p>You can access the most up-to-date documentation covering all SAP BusinessObjects products and their deployment at the SAP Help Portal. You can download PDF versions or installable HTML libraries.</p> <p>Certain guides are stored on the SAP Service Marketplace and are not available from the SAP Help Portal. These guides are listed on the Help Portal accompanied by a link to the SAP Service Marketplace. Customers with a maintenance agreement have an authorized user ID to access this site. To obtain an ID, contact your customer support representative.</p>

Information Resource	Location
<p>SAP Service Marketplace</p>	<p>http://service.sap.com/bosap-support > Documentation</p> <ul style="list-style-type: none"> • Installation guides: https://service.sap.com/bosap-instguides • Release notes: http://service.sap.com/releasenotes <p>The SAP Service Marketplace stores certain installation guides, upgrade and migration guides, deployment guides, release notes and Supported Platforms documents. Customers with a maintenance agreement have an authorized user ID to access this site. Contact your customer support representative to obtain an ID. If you are redirected to the SAP Service Marketplace from the SAP Help Portal, use the menu in the navigation pane on the left to locate the category containing the documentation you want to access.</p>
<p>Developer resources</p>	<p>https://boc.sdn.sap.com/ https://www.sdn.sap.com/irj/sdn/businessobjects-sdklibrary</p>
<p>SAP BusinessObjects articles on the SAP Community Network</p>	<p>https://www.sdn.sap.com/irj/boc/businessobjects-articles</p> <p>These articles were formerly known as technical papers.</p>
<p>Notes</p>	<p>https://service.sap.com/notes</p> <p>These notes were formerly known as Knowledge Base articles.</p>
<p>Forums on the SAP Community Network</p>	<p>https://www.sdn.sap.com/irj/scn/forums</p>

Information Resource	Location
<p>Training</p>	<p>http://www.sap.com/services/education</p> <p>From traditional classroom learning to targeted e-learning seminars, we can offer a training package to suit your learning needs and preferred learning style.</p>
<p>Online customer support</p>	<p>http://service.sap.com/bosap-support</p> <p>The SAP Support Portal contains information about Customer Support programs and services. It also has links to a wide range of technical information and downloads. Customers with a maintenance agreement have an authorized user ID to access this site. To obtain an ID, contact your customer support representative.</p>
<p>Consulting</p>	<p>http://www.sap.com/services/bysubject/businessobjectscounseling</p> <p>Consultants can accompany you from the initial analysis stage to the delivery of your deployment project. Expertise is available in topics such as relational and multidimensional databases, connectivity, database design tools, and customized embedding technology.</p>

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