

# **BusinessObjects Enterprise XI R2 Administrator Workshop**

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This course covers BusinessObjects Enterprise XI R2 and Crystal Server XI R2.

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# Introduction

## ***Introduction Objectives***

This manual is written to give you a step-by-step guide for your classroom training and act as a handy reference for your daily work. In this introduction you will learn how to use this training guide effectively. This section covers the following topics:

- Overview of the features and benefits for BusinessObjects XI and Crystal Server XI
- Class Objectives
- Help with using this training guide.

## ***About BusinessObjects Enterprise XI***

BusinessObjects Enterprise XI is a solution for delivering interactive reports to end users via web applications such as a corporate portal, the Internet; extranet, etc. The ability to distribute reports across your organization makes it possible for everyone to have up-to-minute relevant information wherever they are. A user simply needs a web browser and will then have access to interactive reports, enabling them to make better business decisions. BusinessObjects is an integrated suite for reporting, analysis and information delivery – it increases end user productivity and reduces administration.

Enterprise XI provides benefits at the business user level and for the IT professional:

- Makes information easily accessible within and outside the organization.
- Provides enhanced analysis tools providing key components for better decision making.
- Provides a customizable web interface for quick deployment.
- Information is organized in logical folder and sub folder objects.
- Allows better manageability of report source code and report objects through the use of the integrated Repository.
- Offers Business Views, enabling better administration capabilities for providing access to heterogeneous data sources.
- Allows tighter integration with Microsoft Office documents such as Word and Excel.

## ***Training Philosophy***

Studies show people retain 10% of the information they see, 20% of the information they hear, 50% of what they see and hear and 80% of what they see, hear and do. In line with this philosophy, this class utilizes a hands-on method of training. You will see the effect of new skills on the screen, hear the instructor explain how and why to use features and perform each command yourself as you learn.

In addition, this class focuses on your ability to perform tasks using the most productive techniques. The manual may contain several methods of accomplishing a certain task. However class time does not allow for practice of all methods for each task. Your instructor will guide you the most effective method of performing a task, but inform you of other methods that are available.

Questions are encouraged. While we give our best effort to explain new concepts in understandable terms, you may need to hear the concept again or have it explained more thoroughly. Please let the instructor know when you need more information!

## ***Class Objectives***


The class is a performance based instructional system. It is geared to provide you with the tools you need to distribute reports the quickest, most efficient way. After completing this course you will have a greater understanding of BusinessObjects XI and be able to perform the following tasks:

- Understand the architectural components of BusinessObjects XI and the functions of each component
- Determine the best architecture for your organization
- Install the stand alone version of BusinessObjects XI
- Add new users to the system and assign rights
- Assign and manager user groups
- Manage each server and its properties
- Monitor the system's efficiency by viewing parameters
- Be able to change parameters to allow the system to work more efficiently in your environment
- Define file, custom and scheduled events
- Schedule reports based on a calendar
- Schedule reports based on an event or to trigger an event

## About This Manual

Each section of the manual contains objectives to provide you with the overall goals for the lessons. Lessons have descriptions of features and concepts followed by step-by-step directions for completing a specific task.

As you work in this Training Guide, certain conventions are used to identify specific procedures. Use the following table as a guide.

TRAINING GUIDE CONVENTIONS	
Item	Illustrated As
Menu Commands	Underlined letters for accessing menu commands are shown:  <b>Example:</b> <u>F</u> ile/ <u>O</u> pen
Command Buttons	Command Buttons in dialog boxes are shown as buttons:  <b>Example:</b> <span style="border: 1px solid black; padding: 2px;">Tables...</span>
Categories, Radio Buttons, Text Boxes, Check Boxes	All options within dialog boxes are listed in italicized text:  Example: the <i>Keep Group Together</i> check box the <i>Other</i> radio button
Keystrokes	Keyboard keys are indicated by uppercase text:  Example: press ENTER  Keyboard combinations are shown in uppercase text with a plus sign (+) between the keys that need to be pressed simultaneously.  Example: press CTRL + S to save
Toolbar Buttons	Toolbar buttons are indicated by the button name and a graphic image of the button:  Example: click the Print  button
Typing or File Selections	Text to be typed or file names to be selected are printed in bold letters:  Example: type <b>Henry</b> select <b>grouping.rpt</b>
Exercises	Step-by-Step exercises in the text are indicated by bold text and the ❖ symbol.  For example: ❖ <b>Exercise - Format Objects</b>

## ***Tips, Notes and Warnings***

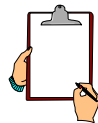
Tips, notes and warnings display with the following icons. Text for these additional comments display in bold and italics.



This icon indicates a tip or shortcut

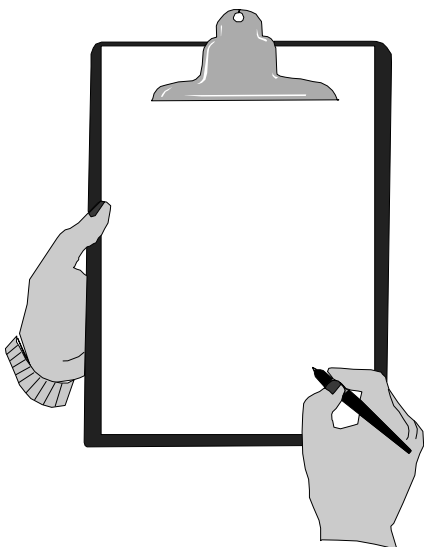


This icon calls attention to a warning or very important note.

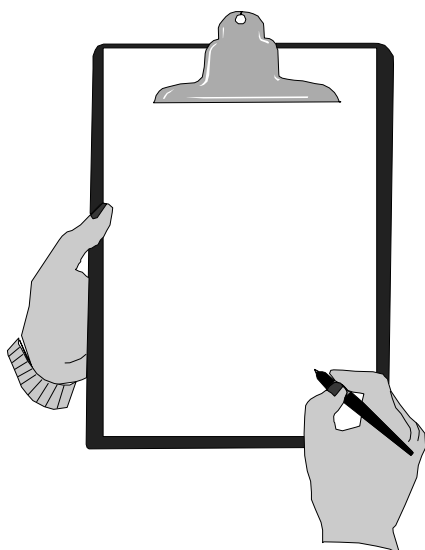


This icon points out a note of additional information.

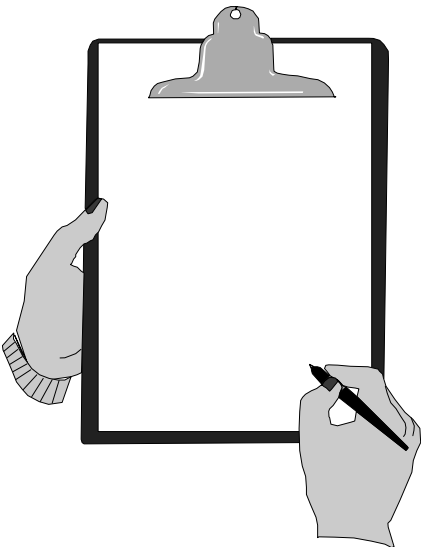
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# Lesson 1

## Architecture and Installation

## ***Lesson Objectives***

After completing this lesson, you will be able to:

- Describe the BusinessObjects components
- Understand the Architecture
- Learn how the components work together
- Utilize various installation options

## ***Understanding the BusinessObjects Components***

BusinessObjects is a multi-tier system with multiple components. Each component is responsible for a different task although components can be logically grouped based on the type of work they perform. To ensure the most appropriate configuration for your business, you need to plan your installation. To plan your installation you need to understand the components. BusinessObjects has four tiers and within those tiers are the various components as follows:

### **Client Tier**

- Browser with components such as the InfoView, Central Management Console (CMC), and custom applications
- Packaged applications such as the Publishing Wizard, Central Configuration Manager (CCM), Business View Manager and Import Wizard.

### **Application Tier**

- Java Platform
  - Java Web Server
  - Java Application Server
  - Web Component Adapter (WCA)
- Windows .NET platform
  - IIS .NET Web Server
  - .NET Server Components
  - Web Component Adapter (WCA)

### **Intelligence Tier**

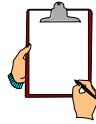
- Central Management Server (CMS)
- File Repository Servers
- Cache Server
- Event Server

### **Processing Tier**

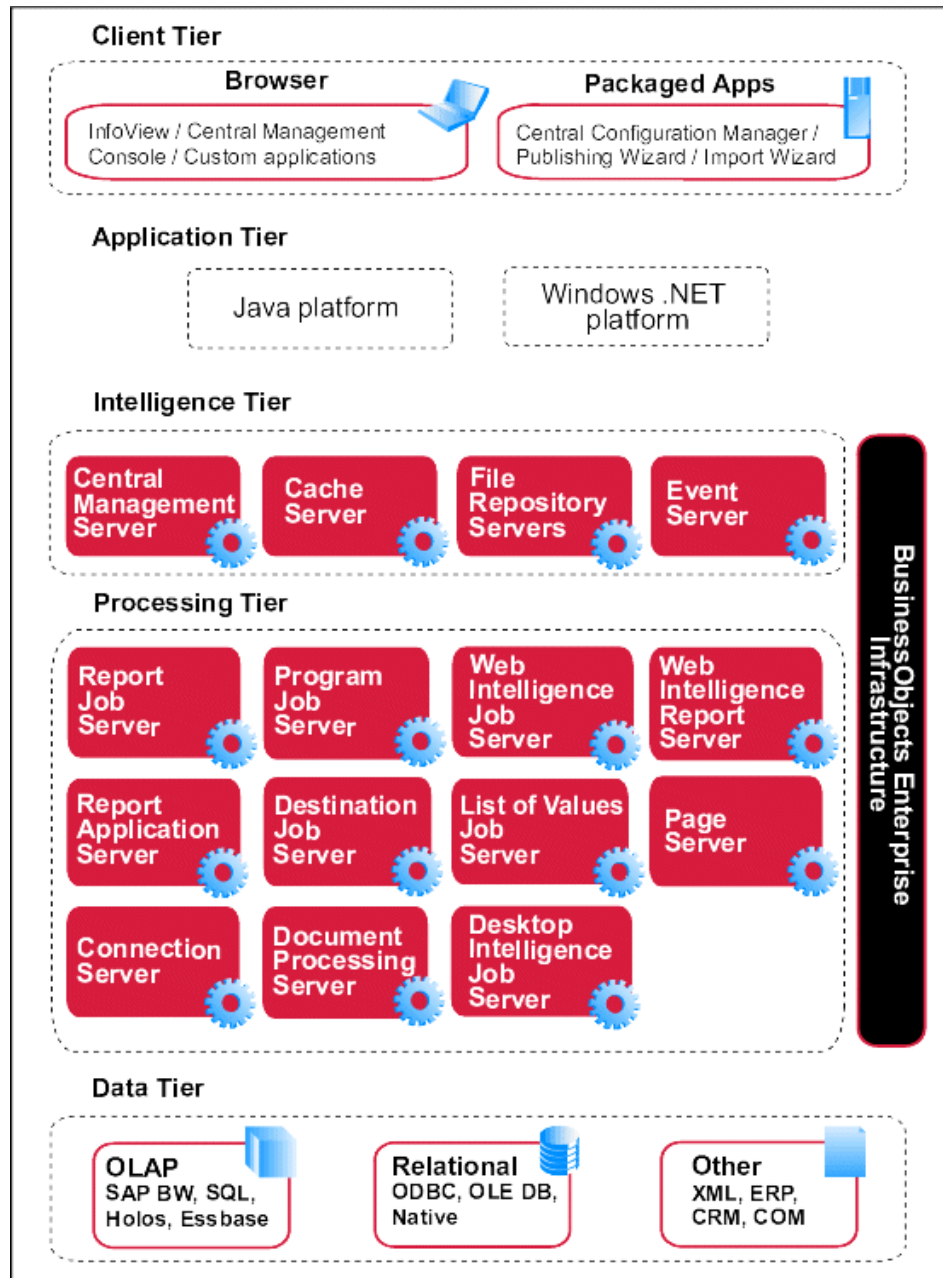
- Crystal Reports Job Server
- Program Job Server
- Web Intelligence Job Server
- Web Intelligence Report Server
- Report Application Server (RAS)
- Destination Job Server
- List of Values Job Server
- Crystal Reports Page Server
- Connection Server
- Document Processing Server
- Desktop Intelligence Job Server

### Data Tier

- OLAP data (SAP BW, SQL, Holos and Essbase)
- Relational ODBC, OLE DB and Native
- Other data such as XML, ERP, CRM and COM



**NOTE: The “servers” are services on Window machines and daemons on Unix machines. Services can all run on one machine, run as multiple instances on one machine or separate machines**



## Client Tier

The client tier is where users interact with Enterprise XI. This tier is made up of applications for users and administrators. These applications and their functionality are covered in detail later in this course but here is a brief description of them.

- **InfoView** is the web-based interface that ships with Enterprise from which users can view and schedule reports.
- **Central Management Console (CMC)** is a web-based application from which administrators manage the environment such as setting up authentication or adding users and groups etc.
- **Central Configuration Manager (CCM)** is a server management tool typically used by Administrators to configure servers and enable and disable them. Central Configuration Manager is a Windows based application.
- **Publishing Wizard** is a windows application for easily adding multiple reports to Enterprise.
- **Import Wizard** is a windows application administrators use for importing users, groups, reports and folders from existing Crystal Info or Enterprise implementations.
- **Business View Manager** is a windows application administrators use for setting up Business Views for the Enterprise Users.

## Application Tier

The application tier hosts the server-side components needed to process requests from the client tier as well as the components needed to communicate requests to the appropriate server in the intelligence tier.

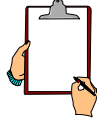
- **Java platform** is the platform for all UNIX based servers and also for Windows servers using the Enterprise Java SDK. A web server for this platform is optional since static information may be used directly with the application server.
  - **Application server and Enterprise Java SDK** runs the SDK on a third party application server. The application server acts as the gateway between the web server and the rest of the components in Enterprise. The application server is responsible for processing requests from your browser, sending Crystal Server Pages (.csp files) to the Web Component Adapter, and using the Java SDK to interpret Crystal components in Java Server Pages (.jsp files).

- **Web Component Adapter (WCA)** provides support for the CMC and CSP applications and is a web application. The WCA can be configured by editing the web.xml file (Java Platform).
- **Windows .NET platform** uses the .NET Framework, which includes Primary Interop Assemblies (PIAs) that allow you to use the COM BusinessObjects SDK with ASP.NET. There is also a set of .NET Server Components you can optionally use to simplify the development of custom applications. This configuration requires the use of a Microsoft Internet Information Services (IIS) web server.
  - **Web Component Adapter (WCA)** provides support for the CMC and CSP applications and is a web application. The WCA can be configured by editing the web.config file (.NET Platform).

## ***Intelligence Tier***

The intelligence tier is the core of Enterprise – it manages the system.

- **Central Management Server (CMS)** has three main tasks – maintaining security; managing objects and managing servers. The CMS maintains a database of information about the Enterprise system. The database type is decided during installation – see the Platforms Appendix to see what database types are supported. The CMS maintains security by maintaining a database of users and their rights. The CMS also enforces the licensing policy. The CMS keeps track of report location and folder hierarchy. It also communicates with the job scheduler to make sure reports run on schedule. The CMS keeps a list of servers in the system and their status. CMS's can also be clustered to provide fault tolerance.
- **Cache Server** handles all viewing requests. When it receives a request from the WCA it sees whether it has the page cached. If it does then it passes the page back to the WCA, if not then it passes the request to the page server. When the page server is done it passes the page back to the cache server to be cached and the cache server passes the data to the WCA. The cache means that Enterprise does not have to access the database each time a request for information is made.
- **File Repository Servers** provides one input and one output file repository per Enterprise installation. The input file repository server contains all the report objects that have been published to the Enterprise System. The output file repository server contains all of the report instances generated by the Report Job Server.



**NOTE: The Input and Output file repository servers cannot share the same directory.**

- **Event Server** manages file-based events. When you create a file-based event, the Event Server monitors the directory specified. The Event server notifies the CMS when a file-based event occurs. It then resets the event and continues to monitor the directory.

## **Processing Tier**

The Processing tier accesses the data and generates reports. The processing tier accesses the database for the reports directly. OLAP data is accessed from the intelligence tier if you are using Crystal Analysis.

- **Report Job Server** processes reports and generates report instances, which are reports with saved data. The job server communicates with the database.
- **Program Job Server** processes scheduled actions submitted by the CMS. A Job Server can be configured to access program objects. Configuring the Job Server to a specific object type determines the Job Server type. It can also be configured to process custom application objects, such as scripts or Java programs.
- **Web Intelligence Job Server** processes scheduling requests it receives from the CMS for Web Intelligence documents. It forwards these requests to the Web Intelligence Report Server, which will generate the instance of the Web Intelligence document. The Web Intelligence Job Server does not actually generate object instances.
- **Web Intelligence Report Server** is used to create, edit, view, and analyze Web Intelligence documents. It also processes scheduled Web Intelligence documents and generates new instances of the document, which it stores on the Output File Repository Server (FRS). Depending on the user's access rights and the refresh options of the document, the Web Intelligence Report Server will use cached information, or it will refresh the data in the document and then cache the new information.
- **Report Application Server (RAS)** processes reports users view with the Advanced DHTML viewer. The RAS also provides the ad hoc reporting capabilities that allow users to create and modify reports over the Web. The RAS is very similar to the Page Server, however, it bypasses the Cache Server by using its own internal caching system.

- **Destination Job Server** is a job server added to your Enterprise system. When you can you configure it to send objects or instances, it become a Destination Job Server.
- **List of Values Job Server** processes scheduled list-of-value objects. These are objects that contain the values of specific fields in a Business View. Lists of values are use to implement dynamic prompts and cascading lists of values within Crystal Reports.
- **Page Server** receives requests for pages from the cache server. It generates Encapsulated Page Format (EPF) pages and gives them to the cache server. The EPF pages define the layout of the report.
- **Connection Server** manages user login connections to the CMS.
- **Desktop Web Intelligence Job Server** processes scheduling requests it receives from the CMS for Desktop Intelligence documents and generates the instance of the Desktop Intelligence document.

## ***Data Tier***

The data tier consists of the corporate databases in a wide range of formats. The Platforms appendix lists the databases supported.

## ***Report Viewers***

Enterprise offers several viewers to support multiple browser platforms and client operating systems. Generally viewers fall into two categories, client-side viewers and zero client viewers.

- **Client-side Viewers**
  - ActiveX viewer
  - Java viewer
- **Zero Client Viewers**
  - Dynamic Hyper-Text Markup Language (DHTML) viewer
  - Advanced DHTML viewer

When using a client-side viewer, a small application is downloaded and installed on the client's browser. This enables BusinessObjects to send the report object in its native format, or Encapsulated Page Format (EPF), for processing and viewing by the client. In a zero client viewer scenario, the report EPF pages are processed by the server and sent to the browser as a web page.

## ***Information Flow***

Before we look at the installation options for BusinessObjects let's look at information flow in one scenario viewing a report. This will give us an idea of how the components interact with each other in the simple case where we only have one of each component. In this example we are using the Windows COM platform for our application tier and therefore are working with the Web Component Server (WSC) and the Web Connector. The process would differ slightly with other platforms.

### **Viewing a Report**

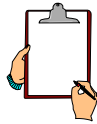
1. Using InfoView a user requests to schedule a report from their desktop.
2. Request is passed to the application server and evaluated by the Enterprise SDK.
3. The SDK passes the request to the Central Management Server (CMS)
4. The CMS checks to see if the user has viewing rights to the requested report.
5. If the rights exist, the CMS schedules the job to run at the specified time.
6. When the time occurs, the CMS passes the job to the appropriate Job Server. In this case the job request is for a report and the request is sent to the Report Job Server.
7. The Report Job Server retrieves the report from the Input File Repository, processes it and then notifies the CMS when the job is complete. The instance generated is stored in the Output File repository.

## Installing Enterprise on Windows

### Installation Options

There are seven options when you are considering installing BusinessObjects on Windows. In this class we shall do the full stand-alone installation, which is the first in our list. In your environment it is unlikely you will do a stand-alone install except as a test environment. For details on a Unix install see the appendix – Installing BusinessObjects on Unix. With any of these options you need to log on to the local machine as Administrator to install BusinessObjects.

1. **Stand Alone Installation** – in this case you install all the Enterprise components on a single machine that is already running as a Web server.



**NOTE: Stand Alone is the only option available with Crystal Server XI. All other options are available with BusinessObjects Enterprise XI only. This is the major difference between the two products.**

2. **Server Side Installation** – in this case the Web server is running on a separate machine. You install Enterprise on one machine and install and configure the Web Component Adapter on the web server machine. This is especially useful if you have a UNIX web server.
3. **Expanded Installation** – in this case you choose where and how many various components to install to suit your environment. This shall be covered in this course in some level of detail. By the end of the class you should understand enough about the various components to be comfortable doing this kind of install.
4. **Client Tools Installation** – Enterprise comes with some stand-alone windows applications such as the Publishing Wizard. This installation enables you to install these applications for those users who need them.
5. **Custom Installation** – this is for the expert user and allows you to choose exactly what components are installed.
6. **Silent Installation** – this is for an experienced administrator and allows installation from the command line. You would use this for quick installations on multiple machines. The silent installation command can also be included as part of a script.
7. **Developer Component Installation** – allows the installation of the Java and/or .NET versions of InfoView and the Enterprise SDK.

## System Requirements (Windows)

The Platforms appendix provides a list of tested environments for BusinessObjects including specific versions for web servers etc. In general the following must be installed before you install Enterprise:

### Operating Systems

- Microsoft Windows 2000 Data Center Server SP4
- Microsoft Windows 2000 Advanced Server SP4
- Microsoft Windows 2000 Server SP4
- Microsoft Windows 2003 Server Standard Edition SP1
- Microsoft Windows 2003 Data Center Server Edition SP1
- Microsoft Windows 2003 Web Server Edition SP1
- Microsoft Windows 2003 Enterprise Edition Server SP1
- Microsoft Windows 2000 Professional SP4 (Client Components)
- Microsoft Windows XP SP1 (Client Components)
- Microsoft Windows XP SP2 (Client Components)

### Hardware

- 32-bit AMD/Intel chipsets only
- 5 Gigabytes (GB) free disk space
- P3 700 Mhz or higher
- 1 GB RAM
- CD-ROM Drive

### Web Server Software

- Microsoft IIS 5.0
- Microsoft IIS 6.0
- Tomcat 5.0.27 (JDK 1.4.2\_08)
- WebLogic 8.1 SP4 (JDK 1.4.2\_x)
- WebSphere 5.1.0.4 (JDK 1.4.1\_x)
- WebSphere 5.1.1.0 (JDK 1.4.2\_x)
- WebSphere 6.0.0.1 (JDK 1.4.2\_x)
- Oracle Application Server 10g (10.1.2) (JDK 1.4.2\_x)
- SAP Web Application Server 6.40 SP11 (JDK 1.4.2\_x)

### Client Browsers

- IE 6.0 SP1/SP2
- Firefox 1.0.4 (limited)
- Safari 1.3 on OS 10.3.9 (OLAP and DHTML editing not supported)



**NOTE: Additional installation requirements can be found in Appendix B: Platform Support. This includes server databases and Java Application Servers**

## **The Central Management System (CMS) Database**

The CMS needs a database to store the information about Enterprise and its users. The Setup program installs and configures the MySQL 4.1.13A database if necessary. Other databases may be substituted if desired, such as Oracle, MS SQL Server, Sybase and DB2.

## **Network Requirements**

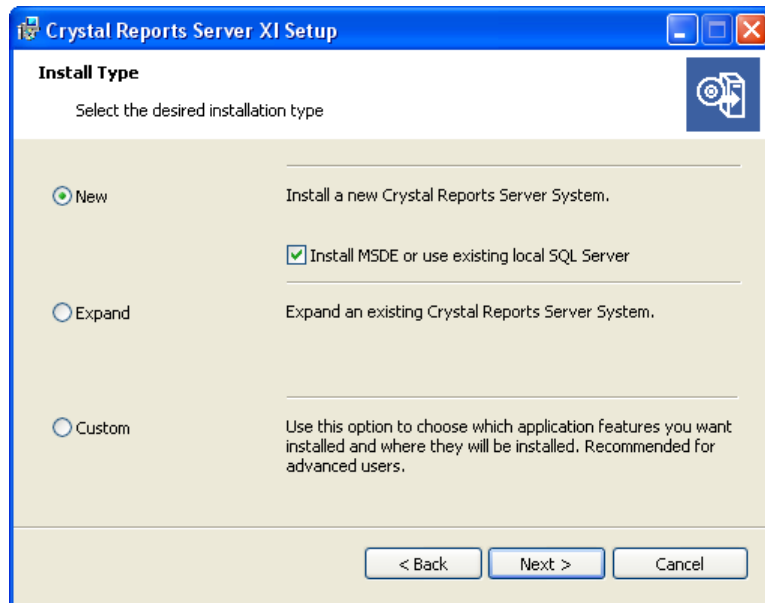
If you are installing Enterprise across multiple machines make sure each machine can communicate over TCP/IP with the machine that is running the CMS. All InfoView clients must be able to access the web server. The web server must be able to communicate with the machine that is running the Web Component Adapter. A simple way to test communication is to ping the machine with which you are trying to communicate. You type the command at the DOS prompt "ping IP Address", such as "ping 192.168.1.1".

## **Full Stand Alone Installation**

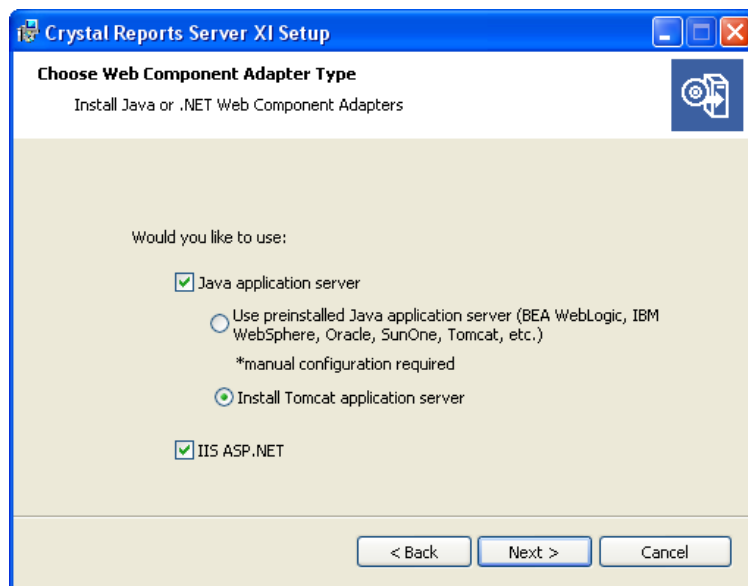
This is the quickest way to install Enterprise and is the one we shall do in class. When you do this installation, all the client and server components are installed on the local machine. The CMS automatically creates its own database. The Web Adapter is automatically configured to allow communication between Enterprise and the web server on your local system. Default user and group accounts are created and sample reports are published to the system.

The steps for the install are as follows:

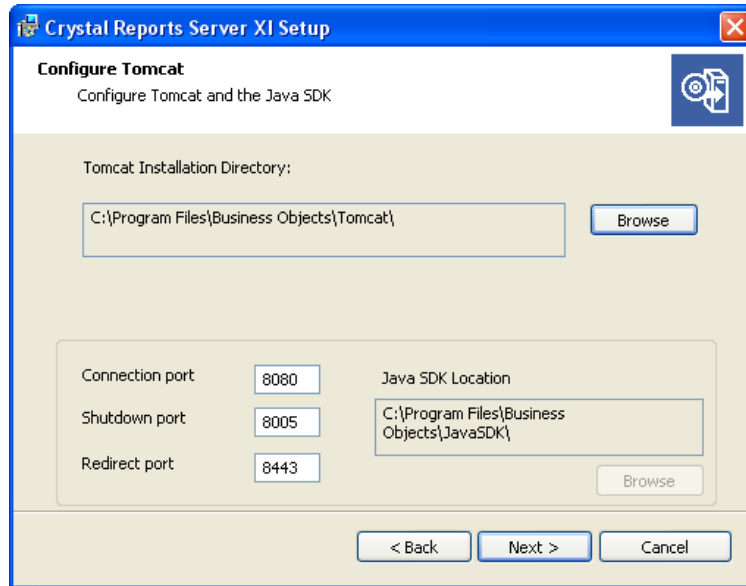
1. Run setup.exe from the win32 directory on the CD.
2. Step through the install wizard until you get to the following dialog where you need to select **New**



3. Click **Next**
4. In the Choose Web Component Adapter Type dialog box, select the type (or types) of Web Component Adapter you want to install. For this class, ensure your selections match the screen below.



5. Click **Next**.
6. Since we selected to install the Tomcat application server, it will need to be configured. Please accept the default settings shown below and click **Next**.



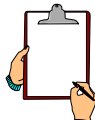
7. In step two, we elected to install MSDE or use existing local SQL. The next screen will prompt to provide a username/password. Provide the appropriate information and click **Next**.
8. A final screen provides a notice the installation is about to begin. Click **Next** to start the installation.
9. Once the installation is complete, you see the final screen where you have an option to launch the Publishing Wizard – this is the default. Clear that option if you do not want to do so.
10. You can now access Enterprise by opening your Web browser and going to:

**Java:**

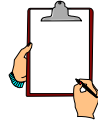
**<http://webserver:8080/businessobjects/enterprise11/desktoplaunch/InfoView/logon/logon.do>**

**.NET**

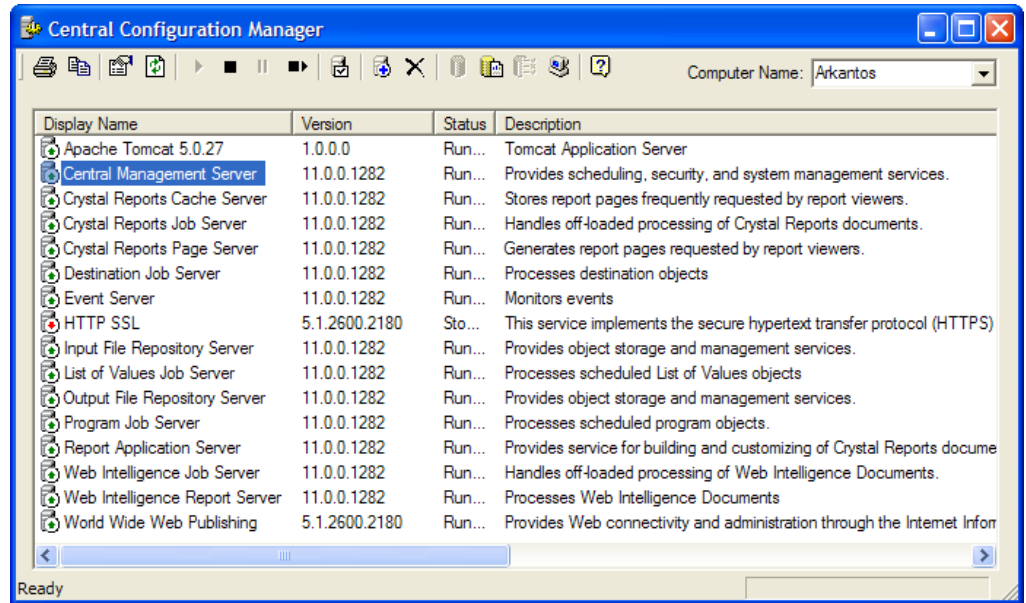
**<http://webserver/businessobjects/enterprise11/InfoView/logon.aspx>**



***NOTE: “webserver” is the name of your local machine.***



**NOTE: If you cannot access Enterprise, start the Central Configuration Manager from the Enterprise/Crystal Server program group and make sure all the servers are started and enabled as shown below.**

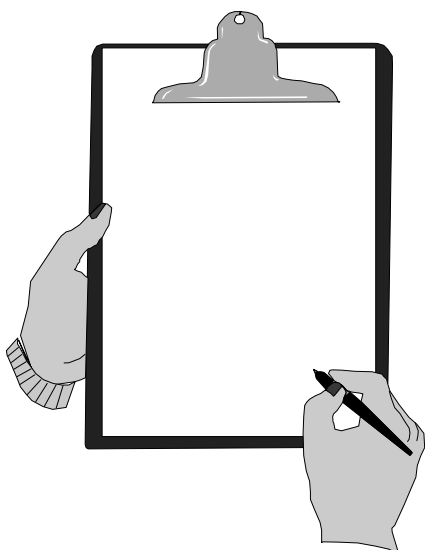


Note: If you can no

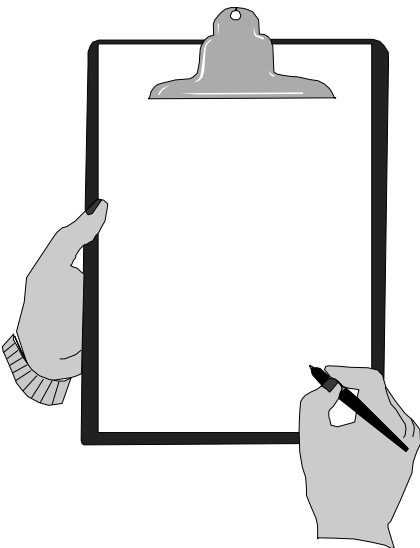
❖ **Exercise 1.1 - Install BusinessObjects**

1. Run setup.exe on the CD and do a complete stand-alone install of Enterprise/Crystal Server using the above steps as a guide.

# NOTES



# NOTES



# NOTES

