IBM

IBM WebSphere Commerce Version 5.4

Reporting Integration Guide

for Crystal Reports® and Crystal Enterprise™ Software

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First Edition (May 2002)

This edition applies to version 5.4 of IBM® WebSphere® Commerce (Program 5724 - A18) and to all subsequent releases and modifications until otherwise indicated in new editions.

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Chapter 1. Introduction

For WebSphere Commerce sites, managers require in-depth analytical information of their business. This analytical data has to be captured periodically from the WebSphere Commerce database, based on the business relevance, specific business models and requirements. The data is then presented as reports satisfying the specified criteria.

Third party reporting tools, like the tools from Crystal Decisions can connect to WebSphere Commerce databases, build queries and generate reports based on query results. You can customize the reports included in the integration kit or introduce new reports consistent with your business needs. The generated reports are accessible through the Internet, giving the user a single point of access.

This integration guide describes how Crystal Reports and Crystal Enterprise can be used in the WebSphere Commerce environment to design, schedule, and publish reports. It contains step-by-step instructions to connect the WebSphere Commerce database with the reporting tools from Crystal Decisions, create or customize reports, publish and schedule reports. Further, it explains how to integrate Crystal Enterprise with WebSphere Commerce and access reports from WebSphere Commerce Accelerator.

The integration kit provides a set of ready to use reports that match the WebSphere Commerce schema. These samples can be used as-is, modified or as a template for new reports.

If you need technical support when using the integration kit, you can contact Crystal Decisions at

http://support.crystaldecisions.com/homepage/

For answers by e-mail support contact

http://support.crystaldecisions.com/support/answers.asp

Alternatively, you can call Crystal Decisions at (604) 669-8379.

Who should read this book?

Managers

- To understand the benefits of integrating Crystal Enterprise with WebSphere Commerce
- To understand and gain an overview of the integration and how it relates to other WebSphere Commerce components

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Administrators

- To maintain the shared or integrated environment between WebSphere Commerce and Crystal Enterprise
- To schedule and monitor report publishing

Report developers

- To create, modify, publish and schedule reports

Objectives

The objectives of the integration kit are:

- Help WebSphere Commerce customers understand the capabilities of this integration
- Walk through the integration procedures
- Learn to create and customize reports using Crystal Reports
- Learn to schedule and publish reports

Note:

You can begin with the sample reports provided with the integration kit.

Components

The following components are used to integrate the reporting tools from Crystal Decisions with WebSphere Commerce.

1. **Crystal Reports**

   Crystal Reports is designed to work with your database to help you analyse and interpret important information. Crystal Reports makes it easy to create simple reports, and, it also has the comprehensive tools you need to produce complex or specialized reports.

2. **Crystal Enterprise**

   Crystal Enterprise is a web-based enterprise report management and distribution system. With this framework, users throughout your organization can access critical information via the web.

   Crystal Enterprise is a multi-tier system. Although the components are responsible for different tasks, they can be logically grouped based on the type of work they perform.

3. **Crystal Publishing Wizard**

The Crystal Publishing Wizard is a locally installed Windows application that enables both administrators and end users to add reports to Crystal Enterprise. Administrators can control who can publish reports and where they can publish them.

4. **Crystal Management Console**

   The Crystal Management Console (CMC) is a web-based administrative application used to take care of tasks related to user accounts, report publishing, folder management, server settings, and license keys. Using a web browser, you can access the CMC from anywhere within your network.

5. **Crystal ePortfolio**

   Crystal ePortfolio is the web-based interface that end users access to view, schedule, and keep track of published reports.

   Crystal ePortfolio is a sample application. You can create your Crystal Enterprise application to suit your business requirements.

Chapter 2. Pre-requisites

This section covers the hardware and software pre-requisites necessary to integrate Crystal Reports and Crystal Enterprise with WebSphere Commerce.

Hardware

The integration can be implemented on a single Windows machine from where the WebSphere Commerce database is accessible. Crystal Enterprise can be accessed from several machines using a Browser.

Note:

Refer to the documentation that comes with Crystal Enterprise for minimal hardware requirements.

Software

The following software is necessary:

- WebSphere Commerce version 5.4 Business Edition or Professional Edition either on Windows NT® Windows 2000®, AIX® or the Solaris® operating environment
- Crystal Reports Professional version 8.5 and Crystal Enterprise Standard version 8

Crystal Reports users are required to have the WebSphere Commerce database (DB2 or Oracle) access privilege.

Note:

You can use Crystal Enterprise Professional edition in place of Crystal Enterprise Standard. The Professional Edition offers the access control feature. This feature enables you to give access control to the users.

Planning

Before installing and configuring the Crystal Reports and Crystal Enterprise, make a checklist to avoid any confusion during configuration.

Use the following checklist to plan the integration:

1. Identify where you will install Crystal Reports and Crystal Enterprise.
2. Identify how to connect to the WebSphere Commerce database.
3. Identify the administrator(s) of Crystal Enterprise.

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4. Identify the user ID and password that is used to process queries on the WebSphere Commerce database.

5. Identify the Crystal Reports designers who need access to WebSphere Commerce and Crystal Enterprise.

Note:

For this sample integration the following was installed on a Windows based machine:

- WebSphere Commerce

The following were installed on another Windows based machine:

- Crystal Reports
- Crystal Enterprise
- IBM HTTP Server – Typically, Crystal Enterprise will not detect the IBM HTTP Server. You can download the necessary patch from ftp://ftp.crystaldecisions.com/outgoing/EHF/ce80ihs.zip

DB2 version 7.2 was the RDBMS used. The administrator for WebSphere Commerce and Crystal Enterprise is not the same person.

Chapter 3. Architecture and workflow

Figure 1 describes the architecture for WebSphere Commerce and Crystal Enterprise configuration. This architecture comprises of Crystal Reports to design reports, WebSphere Commerce Accelerator and Crystal ePortfolio to view reports.

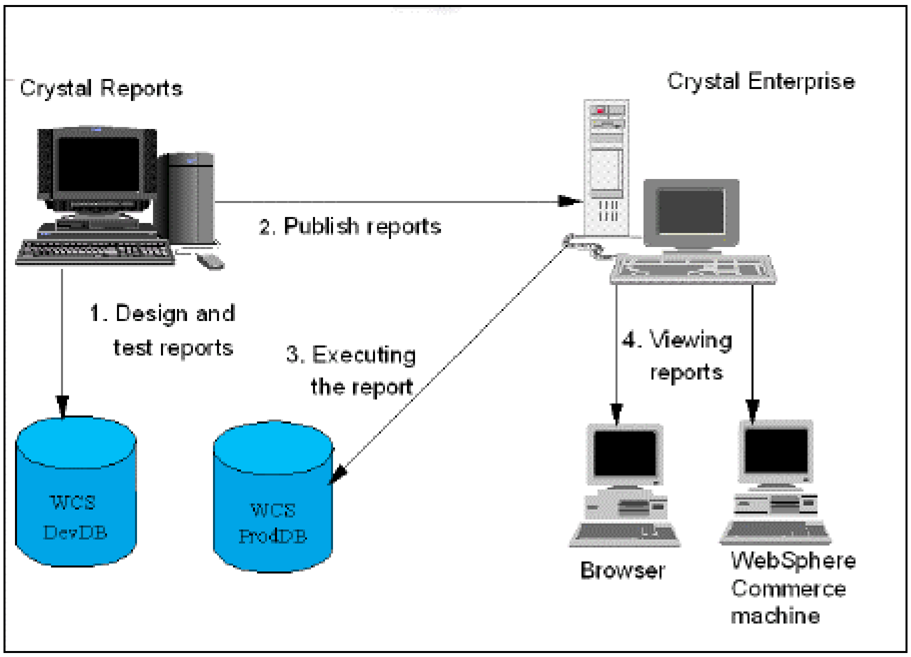

Figure 1: Logical view of the architecture

This is the basic workflow to create a report and have it run automatically at scheduled times:

1. Design and test the report using the Crystal Reports on WebSphere Commerce database in the development environment.

2. Publish the report using the Crystal Publishing Wizard of Crystal Enterprise.

3. When scheduled, Crystal Enterprise will generate the report from the WebSphere Commerce database and store it.

4. Users can access the reports through Crystal Enterprise ePortfolio or, WebSphere Commerce Accelerator.

5. Crystal Enterprise and Crystal Reports can be installed on the same machine as the WebSphere Commerce database or any other machine on the network from where you can access the WebSphere Commerce database.

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Chapter 4. Creating reports

This section gives you detailed instructions on how to create a report. In this case the OrderSummary report has been created as a sample to showcase the functionality of the Crystal Reports and Crystal Enterprise. Creating reports involves the following steps:

1. Creating an ODBC connection. Refer to Appendix A for DB2 and Appendix B for Oracle.
2. Installing Crystal Reports.
3. Creating a query.
4. Customizing the results.
5. Limiting the query.
6. Adding parameter fields.
7. Adding column headers.
8. Hiding rows.
9. Formatting the results.
10. Processing the query.

Note:

- MALL is the default database name for WebSphere Commerce
- IRISMALL is the database alias used in this example for Mall

Installing Crystal Reports

Use Crystal Reports to design and test queries; create reports with tables and charts.

To install Crystal Reports, refer to the installation instructions that come with Crystal Reports. Follow on screen instructions when you run the setup.

Creating a query

A query is a request to retrieve data or information that is stored in a database. The retrieval of data can be based on certain conditions. To do this, construct the query by setting the required parameters. Depending on these parameters the query retrieves the requested information from the database.

The query created here is to generate the OrderSummary report.

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To create a query, open Crystal Reports and execute the following steps:

1. From the **Start** menu go to **Programs**, **Crystal Reports Tools** and select **Crystal Reports**.

2. From the welcome dialog select **As a Blank Report** and click **OK**.

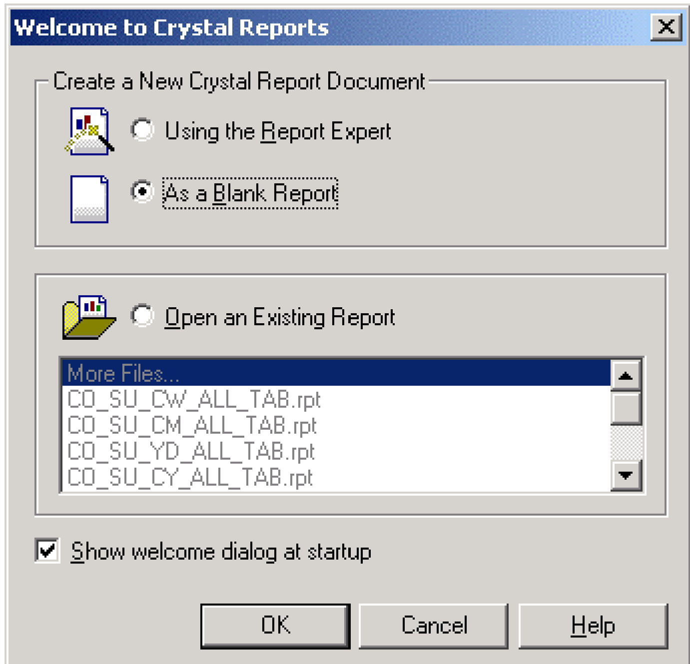

Figure 2: Welcome to Crystal reports dialog

3. Expand **ODBC** from the Data Explorer dialog to view the list of existing ODBC connections as shown in Figure 3.

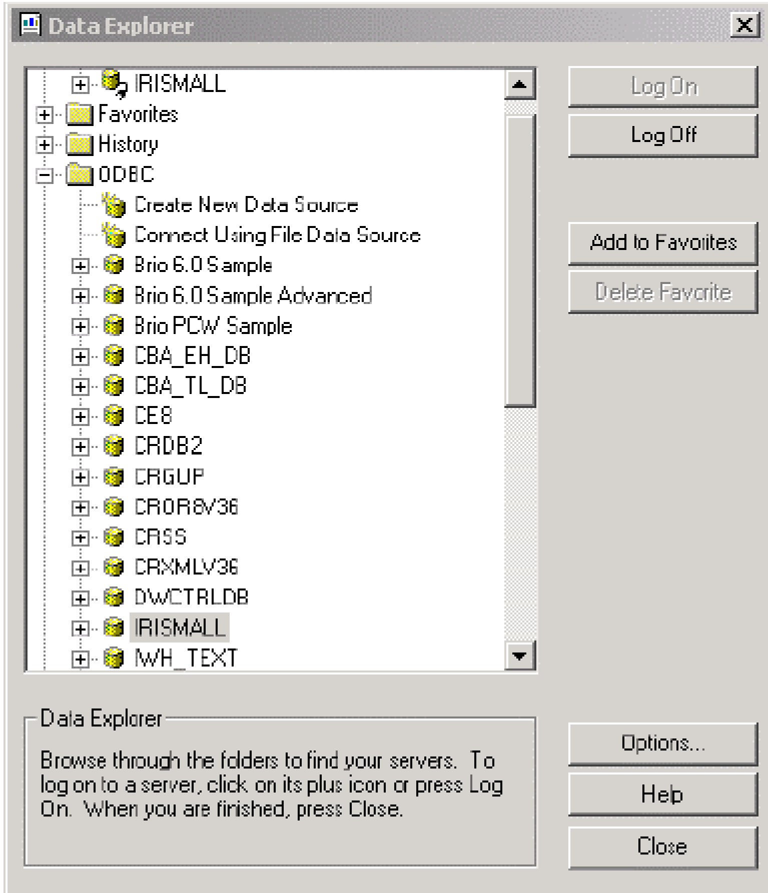

Figure 3: Data Explorer dialog

4. From the list of ODBC connections double click on **IRISMALL,** which is the database alias for the WebSphere Commerce database, mall. If you are using another database select the corresponding ODBC connection. Enter the **User ID** and **Password** in the Connect to DB2 Database dialog. Ensure that the connection mode is on **Share**. Click **OK**.

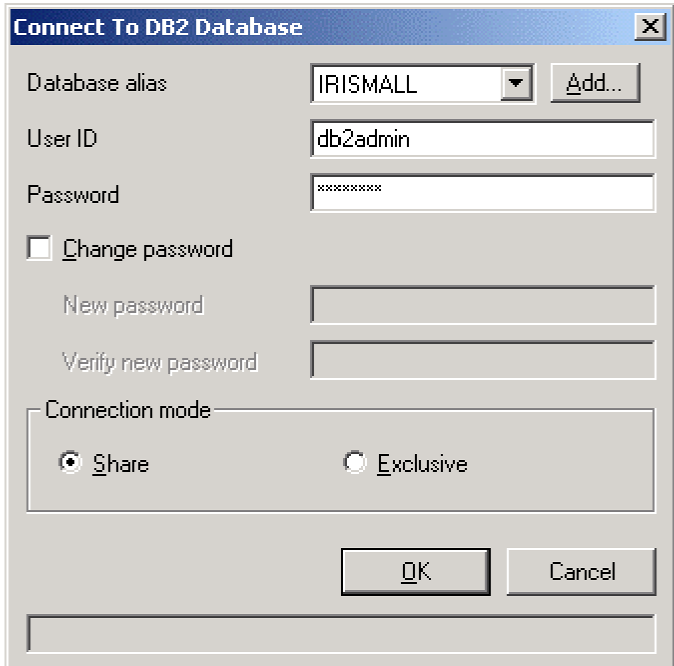

Figure 4: Connect to DB2 Database

The list of tables present in the IRISMALL database displays.

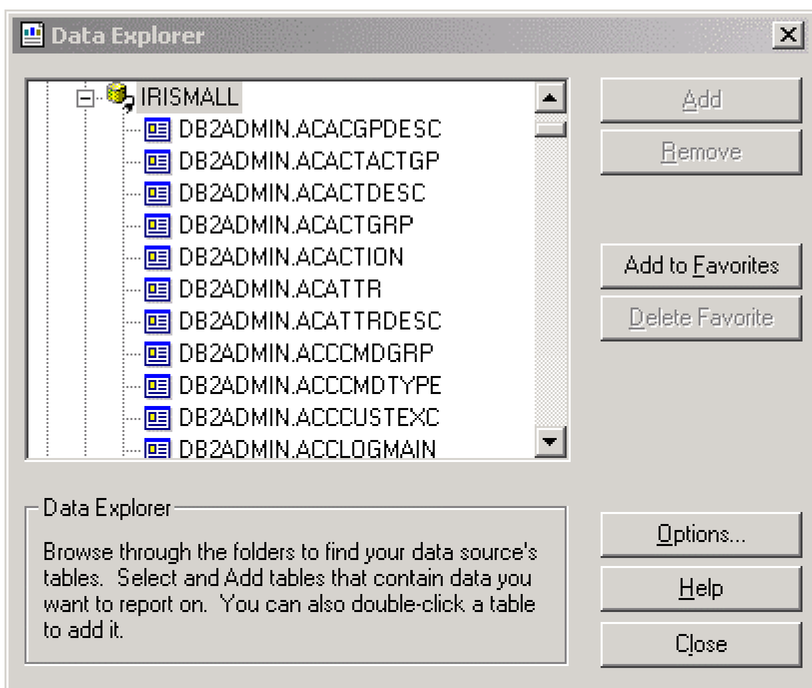

Figure 5: Data Explorer dialog

5. Double click on the tables for which you want to create the query. Note that the selected tables will display a checkmark. Here, we have used the **Orderitems** table. Click **Close**.

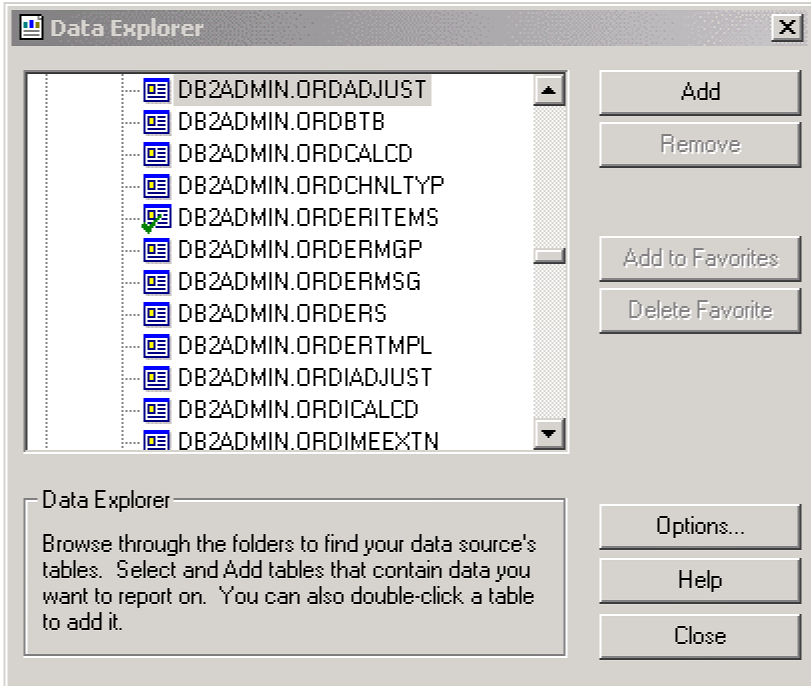

Figure 6: Selecting tables

6. The Visual Linking Expert displays the selected table with its links. Click **OK**. If you need to add new tables here, click **Tables** and repeat step 5.

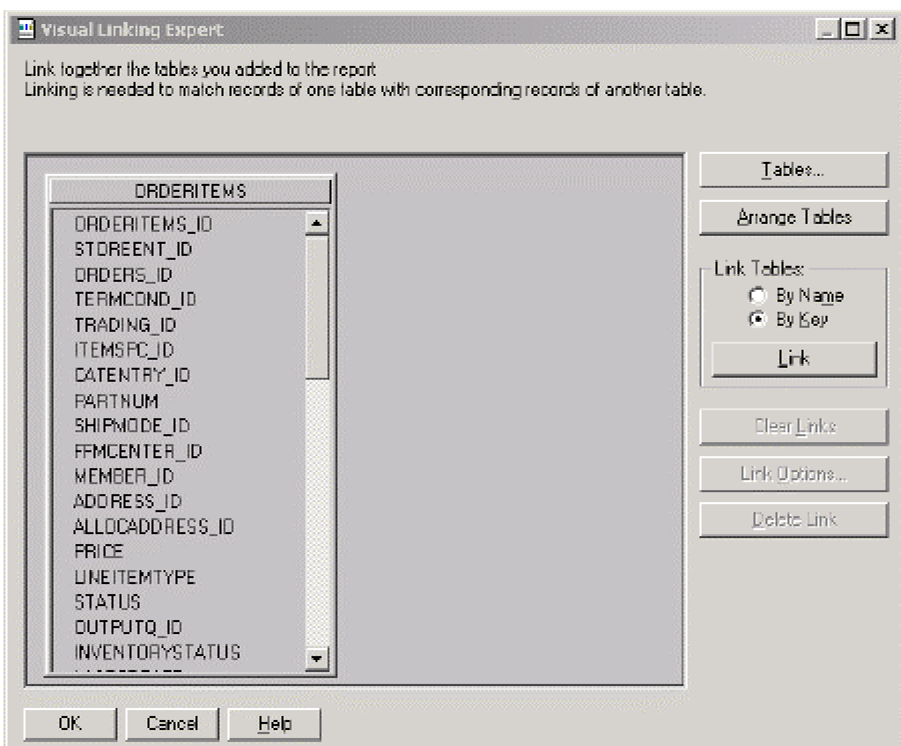

Figure 7: Visual Linking Expert

7. From the Field Explorer dialog, expand the **Database Fields**. The Orderitems table displays. Expand **Orderitems** to view the columns of this table.

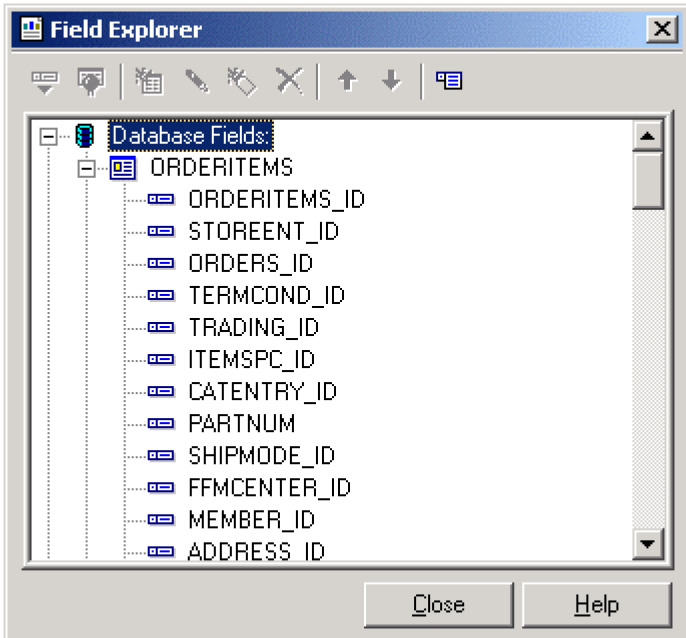

Figure 8: Field Explorer dialog

a. In this step you are selecting the table columns to build your query. From the Field Explorer dialog select the **Lastcreate** column in the Orderitems table. Drag and drop it into the **Details** area.

b. Select the **ORDERS_ID**, **PRICE** and **STATUS** columns from the Orderitems table. Drag and drop them into the Report Footer as shown in Figure 9.

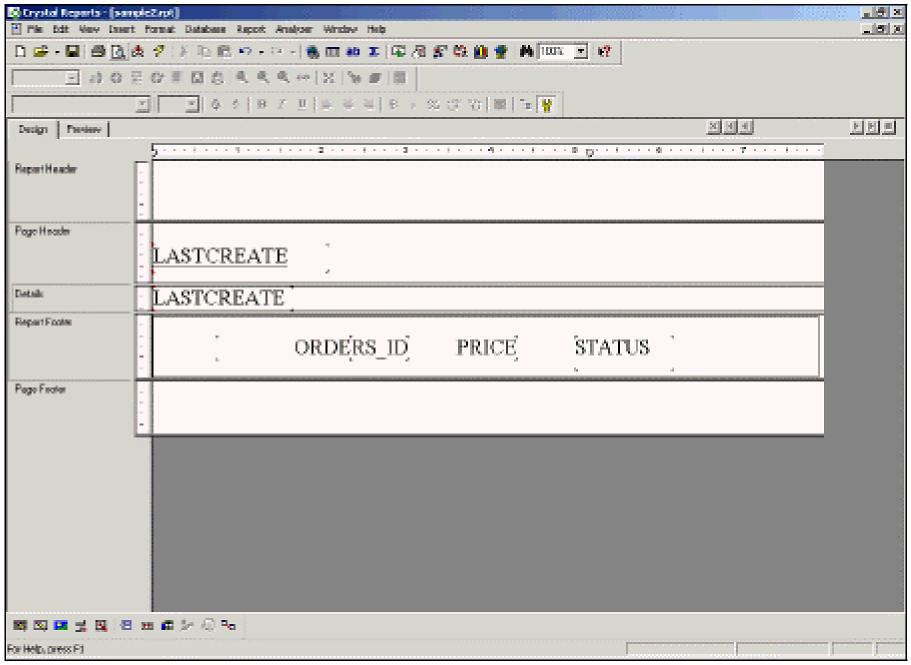

Figure 9: Selecting ORDERS_ID column

Customizing the results

You can customize the results of your query obtained from the database to suit your business needs, through data manipulation. Here the Orders_ID column will be summarized to create the OrderSummary report.

The OrderSummary report contains the number of orders placed in the specified time period. In this example all the entries in the database for Orders_ID are summarized using the distinct count function.

1. Right click on **ORDERS_ID** in the Report Footer. From the **Insert** menu select **Summary**.

    a. From the Insert Summary dialog, select **distinct count** from the first drop down list. This calculates the distinct count of the items ordered.

    b. From the next dropdown list, select **ORDERITEMS.LASTCREATE**. This groups the results to show the number of items ordered.

    c. To display the results in ascending order select **in ascending order** form the drop down list.

d. From **This section will be printed**, select for each year. This groups the results by the values of the year in the Lastcreate column. If you want to group the results by month, week or quarter, select the appropriate condition. Click **OK.** This displays the calculated value Distinct count of ORDERITEMS.ORDERS_ID in the Group Footer as shown in Figure 11.

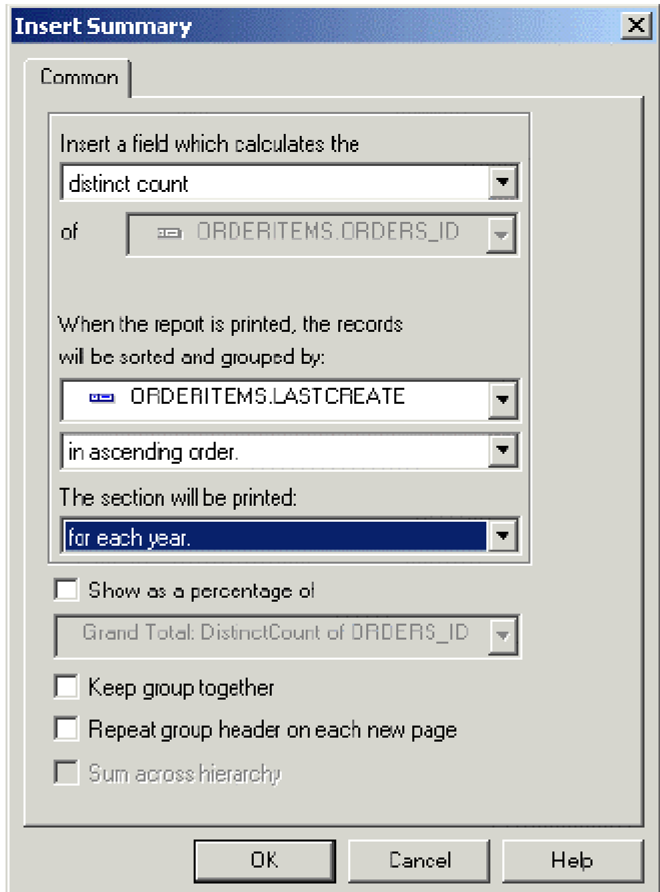

Figure 10: Insert Summary dialog

In step 2, you are summarizing all the entries in the database for Orders_ID using the count condition.

2. From the Report Footer right click the **ORDERS_ID** column. From the **Insert** menu select **Summary**.

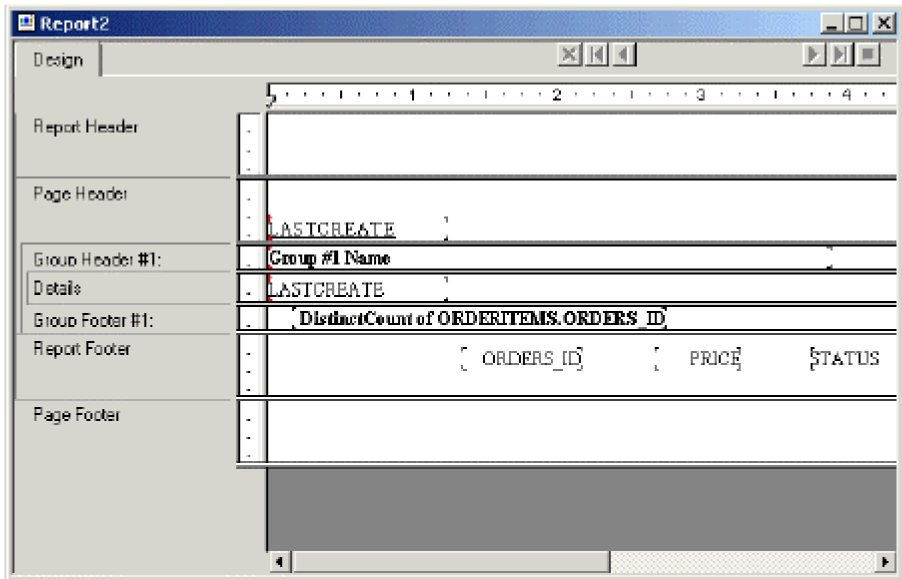

Figure 11: Reports window

a. From the Insert Summary dialog, select the **count** from the drop down list as shown in Figure 12. This calculates the number of items ordered, in a single order.

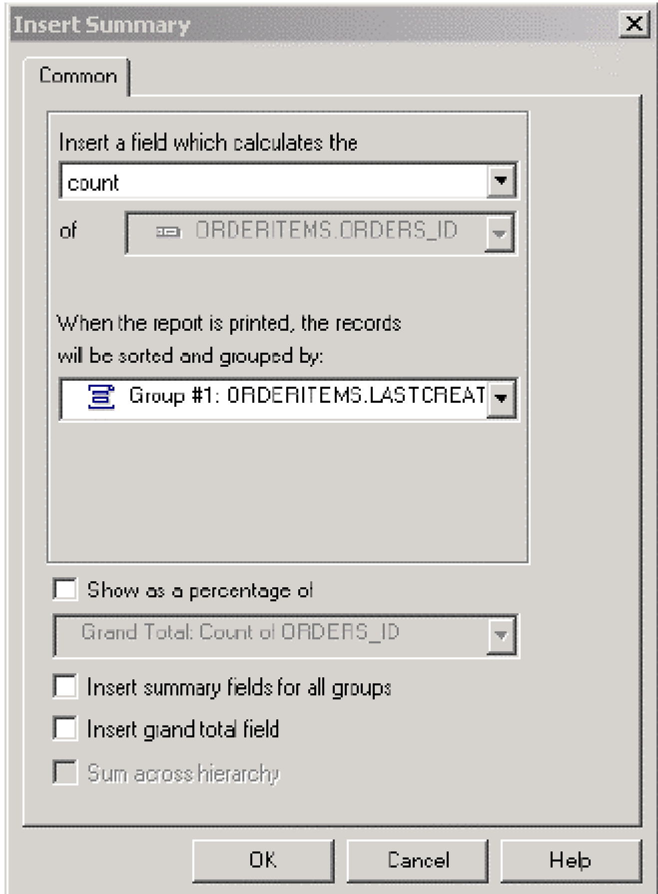

Figure 12: Insert Summary dialog

b. From the next drop down list select **Group #1: ORDERITEMS.LASTCREATE**. Click **OK**. This groups the results as **Count of ORDERITEMS.ORDERS_ID** and displays in the Group Footer as shown in Figure 13.

c. Select **Group #1 Name** from the Group Header and press Delete.

3. Drag and drop **ORDERS_ID**, **PRICE** and **STATUS** from the Report Footer into the Group Footer. Drag and drop **LASTCRETAE** from the Details area to the Group Header.

In step 4 you can set the limit for the status of the order. In the order summary reports we display the orders that are completed or shipped. This status is represented in the database as C and S respectively. In order to select these values when creating the query you must select the status value C. Add the status value S if it is not present in the list as listed in the following steps.

4. Right click **STATUS** from the Report Footer and **Select Expert** from the pop up.

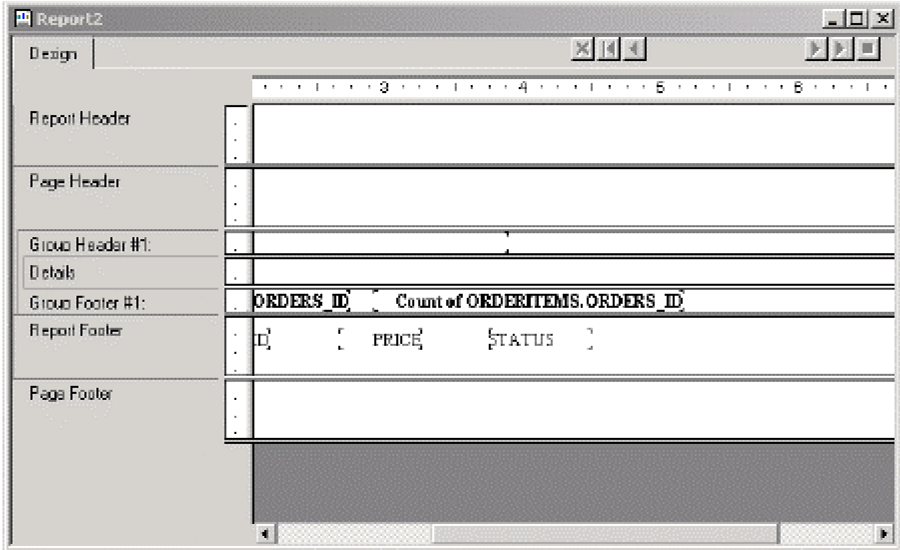

Figure 13: Report window

a. From the Select Expert dialog, select a condition to limit the STATUS column from the left drop down list, depending on your business requirement. Here, we have selected **is one of.** This means that the status of the order is one of the conditions that you specify.

b. From the right drop down list select an existing value for status from the database. This existing value is the status of the order. In this case it is **C,** where C is completed orders.

c. If you want to assign a value to the status that is not displayed in the drop down list, then you need to add it manually, as it does not exist in the database. For example, enter **S** in the drop down list and click **Add**, where S is shipped orders. **S** is added to the list shown below. Click **OK**.

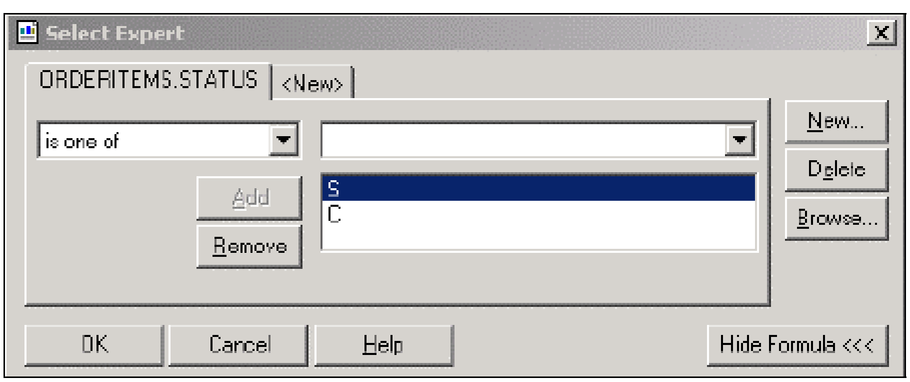

Figure 14: Select Expert dialog

Limiting the query

1. To limit the OrderSummary query to current Year, right click **LASTCEATE** in the Details area and **Select Expert**.

    a. From the Select Expert dialog, click **Show Formula** and then click **Formula Editor.**

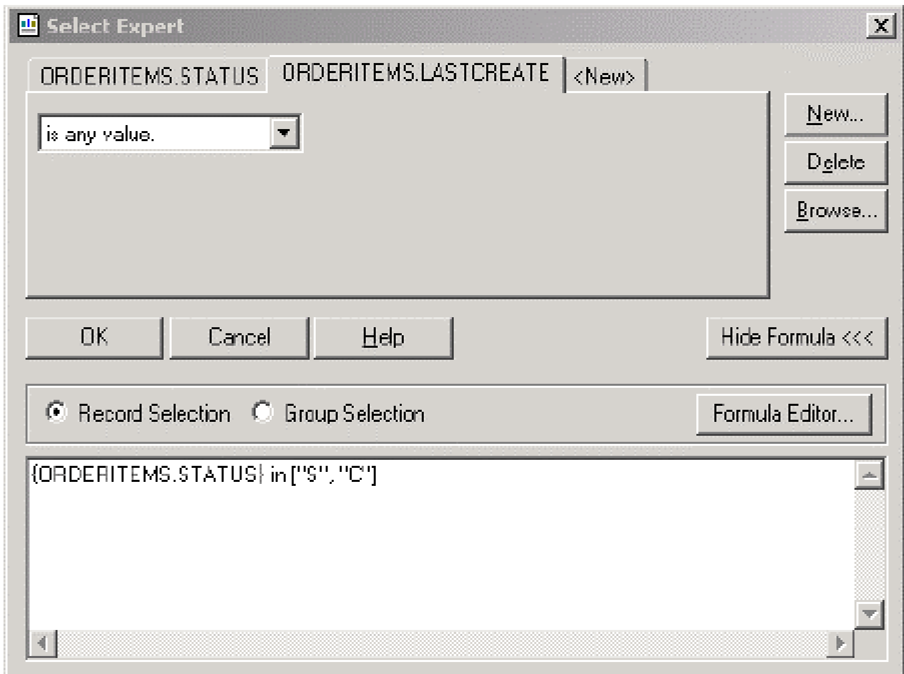

Figure 15: Select Expert dialog

    b. The Record Selection Formula Editor displays as shown in Figure 16. This contains the Report Fields, database tables and the corresponding columns. It also displays the Crystal Reports specific Functions and Operators. The lower frame displays the limiting conditions created in the section Customizing the results step 4a, b and c.

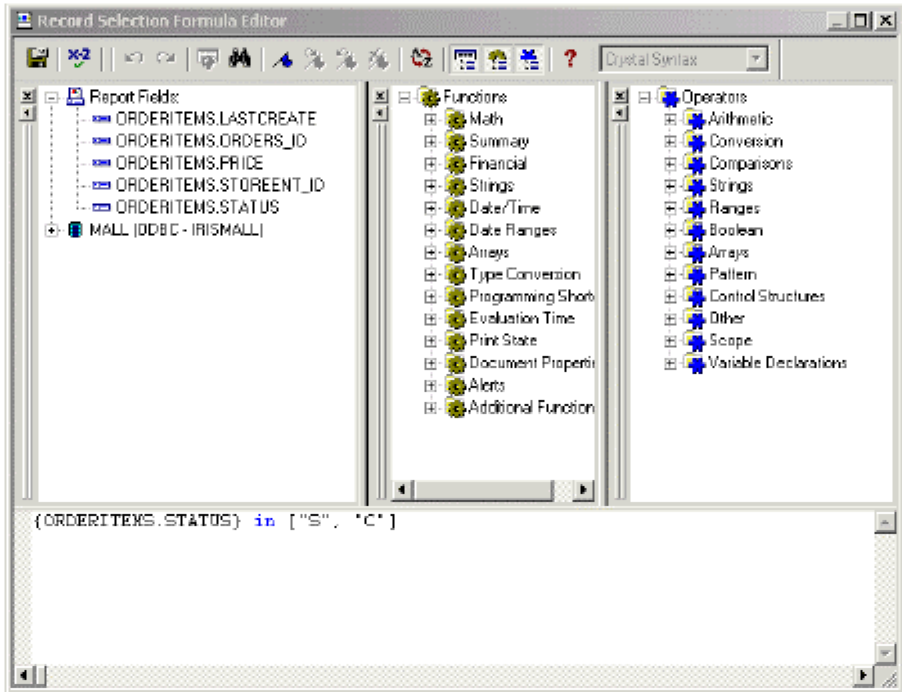

Figure 16: Record Selection Formula editor

c. To limit the Lastcreate column to display the results for the current year, from the Operators frame expand **Boolean** and double click on **And**.

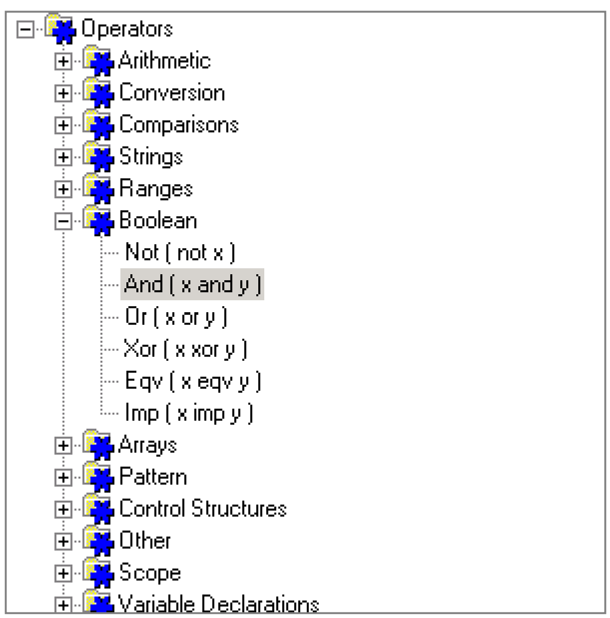

Figure 17: Operators frame

d. From the Functions frame click on **DateTime** to expand it. Double click **Year** and then double click **CurrentDate Time**. This dispalys **(CurrentDate Time)** in the lower frame.

e. Move the cursor in the lower frame outside the parenthesis and then, from the Operators frame expand **Comparisons** and double click **Equal**.

f. From the Functions frame double click **Year**.

g. From the Report Fields frame double click **ORDERITEMS.LASTCREATE** to display it in the lower frame. This limits the query to display the items ordered only in the current year.

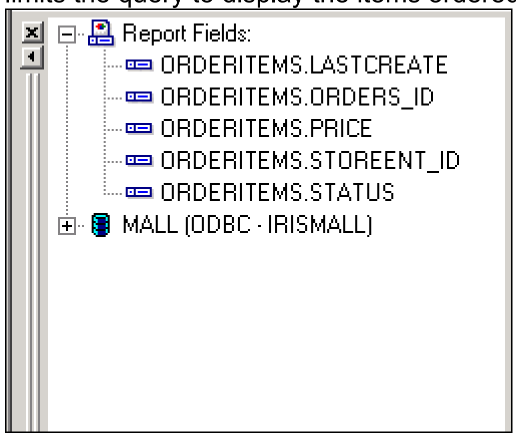

Figure 18: report Fields frame

The limits you have set above are shown in Figure 19.

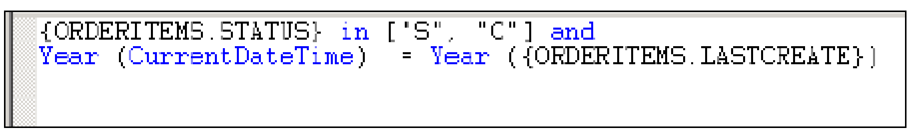

Figure 19: Displaying the formula

h. To verify the limit press Alt+C. If there are no errors you will see a message conveying the same. Click **OK**.

i. If there are errors, a message conveying the same will display. Click **OK**. Rectify the problem in the lower frame and **Close** the Record Selection Formula Editor.

Figure 20: Error Message dialog

j. **Close** the Formula Editor.

k. In the next pop up click **Yes** to save the changes to your query.

2. Click **OK** in the Select Expert dialog to save your limit as shown in Figure 21.

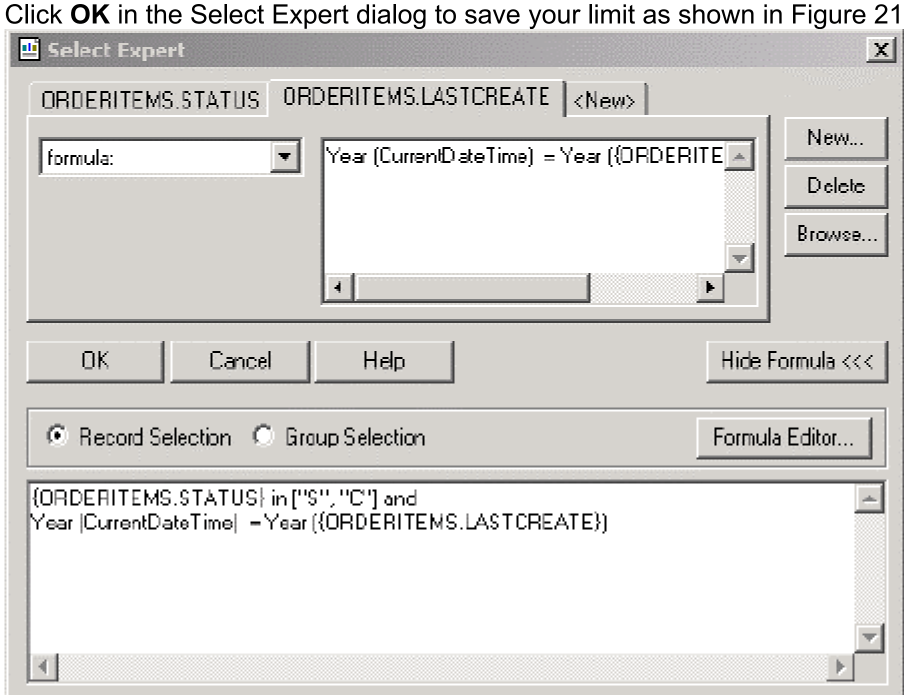

Figure 21: Select Expert dialog

Use the following steps to customize the value of the PRICE column obtained from the database to suit your business requirements. For example, in this case we are multiplying the unit price by the number of items sold to compute the Sales value.

3. From the Insert menu select **Field Object**. The Field Explorer dialog displays. Right click **Formula fields** as shown in figure 22. Select **New**.

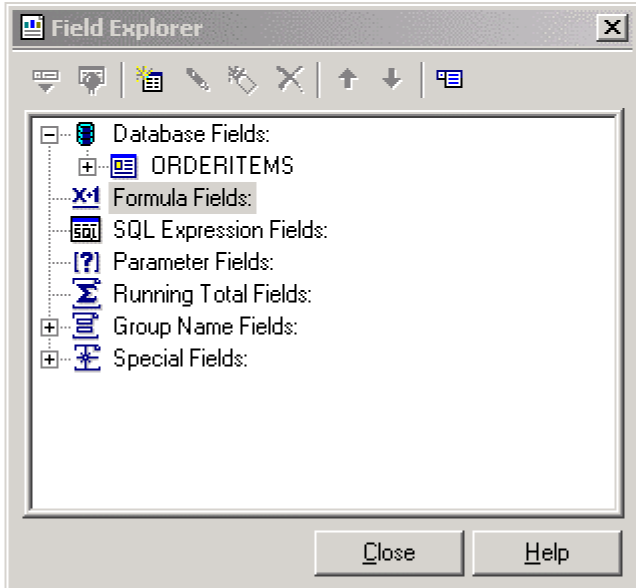

Figure 22: Field Expert dialog

4. Enter the formula **Name**, Calculated Sales Value in this case and click **OK**. The Formula Editor window display as seen in Figure 23. This formula is used to compute the Calculated Sales Value.

    a. From the Report Fields frame, double click **ORDERITEMS.PRICE**.

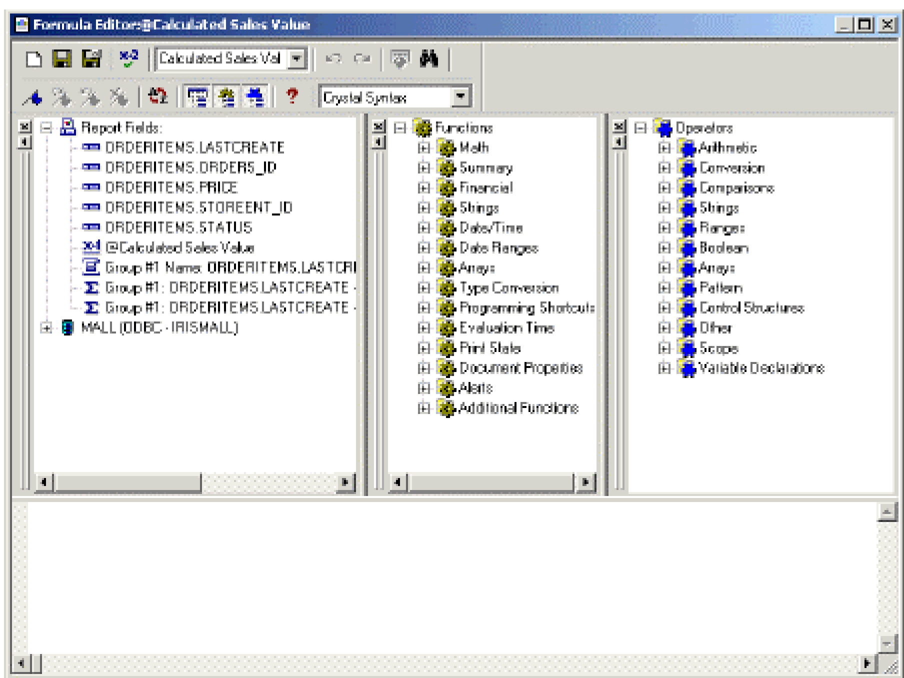

Figure 23: Formula Editor dialog

b. From the Operators frame expand **Arithmetic** and double click **Multiply.**

c. From the Report Fields frame, expand the **ORDERITEMS** table and double click on **Quantity**. The formula displays as shown in Figure 24.

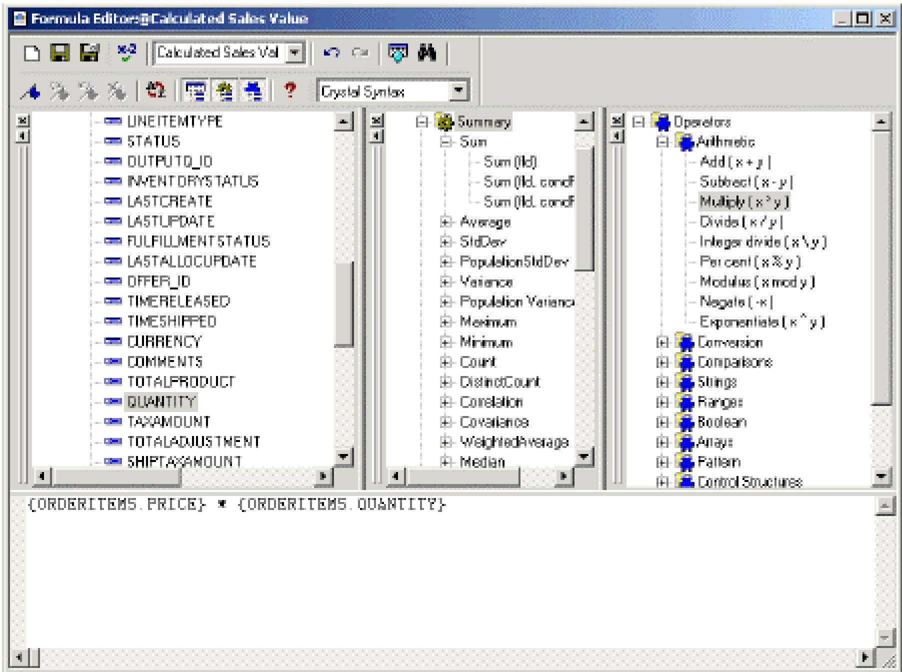

Figure 24: Formula editor dialog

d. To verify the limit press Alt+C. If there are no errors you will see a message conveying the same. Click **OK**.

e. If there are errors, a message conveying the same will display. Click **OK**. Rectify the problem in the lower frame and **Close** the Records Selection Formula Editor.

f. **Close** the Formula Editor. In the next pop up click **Yes** to save the changes to your query. The formula name created above displays in the Field Explorer dialog as shown in Figure 25.

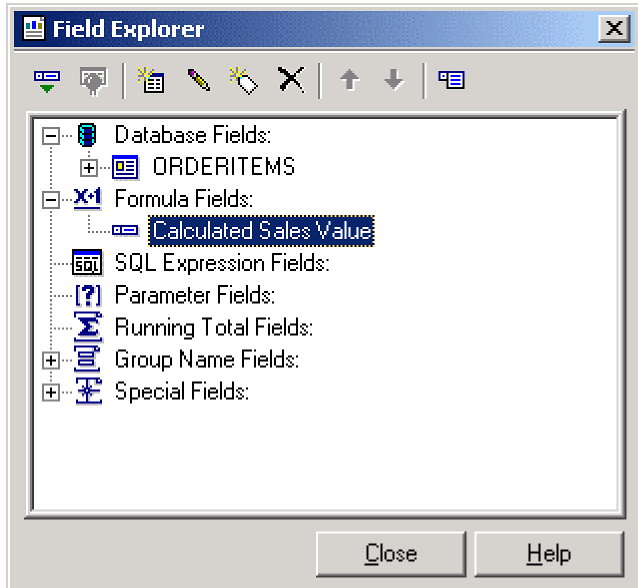

Figure 25: Field Explorer dialog

Adding parameter fields

Parameter fields give you the option to change the value of a specified limit at runtime. This allows you to generate multiple reports with a single query by setting different values for the limits of that query.

Here we have enabled the parameter field option for Storeent_ID form the Orderitems tables. Thus, the query created above can be used to generate reports for different stores.

1. From the main menu go to the **Insert** menu and select **Field Objects**. Right click on **Parameter fields** and select **New.**

2. Enter the following details in the Parameter Fields dialog as shown in Figure 26.

    a. Enter parameter **Name** as Store ID Value

    b. Enter the **Prompting text** as Enter Store ID value

    c. Enter the **Value type** as Number from the dropdown list.

    d. From **Options**, select the **Allow multiple values** checkbox. This lets you assign multiple values to the Store ID Value.

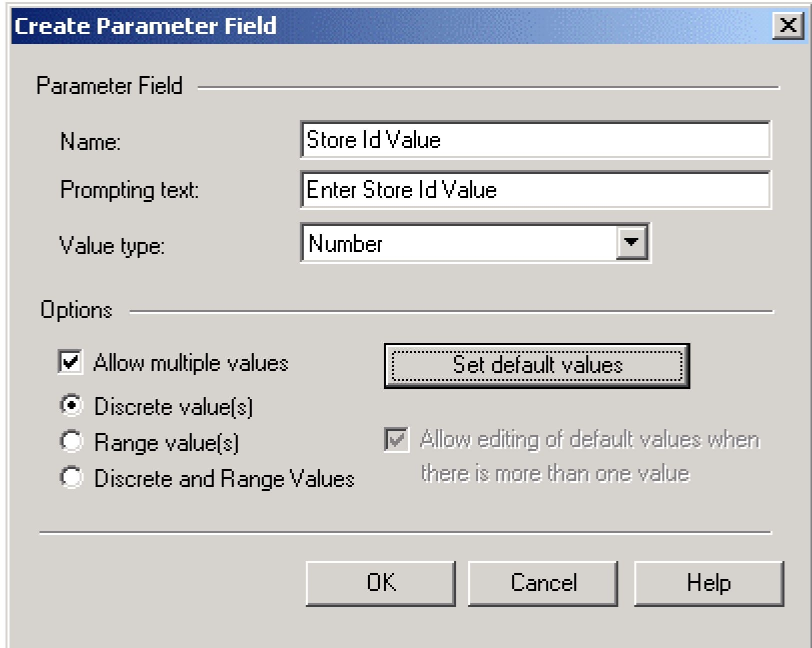

Figure 26: Create Parameter dialog

e. Click **Set default values**, to set a default value for your store. The Set Default Values dialog displays.

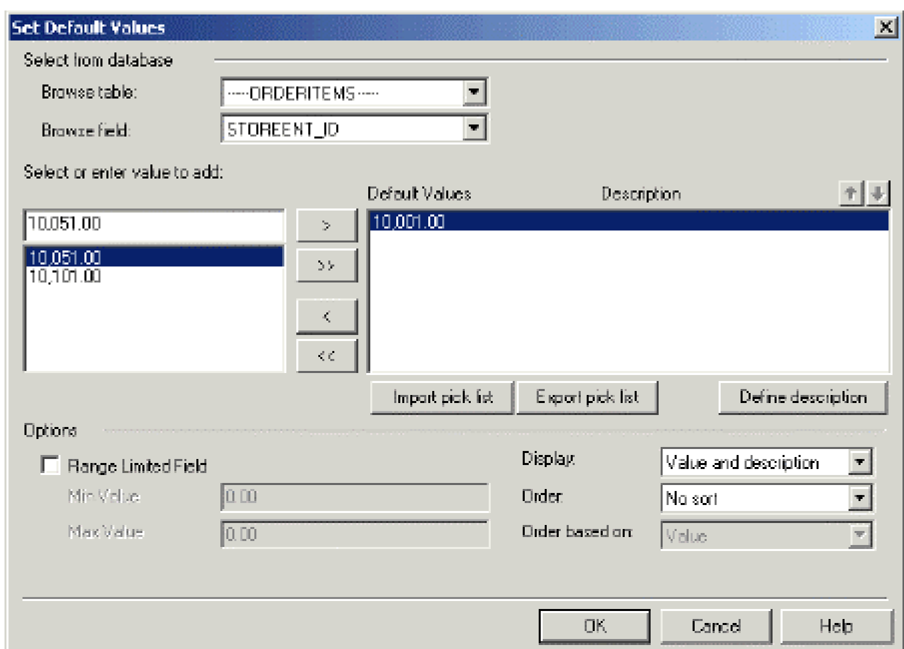

Figure 27: Set default values dialog

i) In the **Browse field** select STOREENT_ID from the drop down list. The existing Storeent_ID values are displayed in the left text area.

ii) Select **10001** in this case and click the single forward button shown below.

iii) Click **OK** to exit the Set Default Values dialog.

iv) Click **OK** in the Parameter Fileds dialog to save the parameter filed. Figure 28 displays the **Store ID Value** in the Field Explorer dialog.

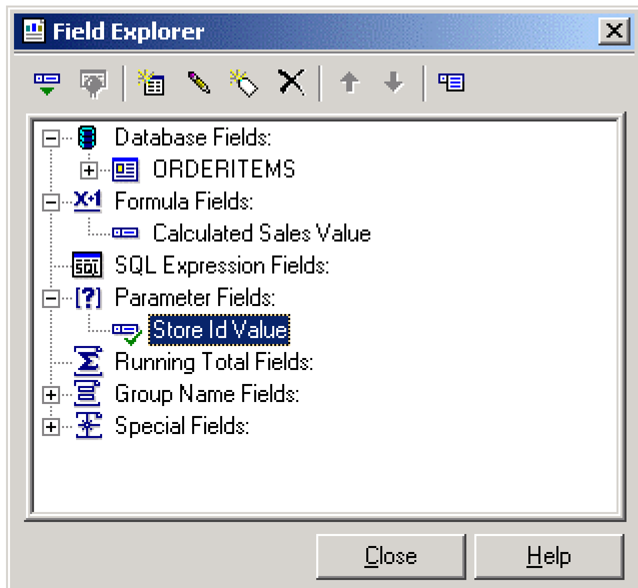

Figure 28: Field Explorer dialog

3. Drag and drop the **Store ID Value** from the Field Explorer into the Group Footer as shown in Figure 31.

Adding column headers

Published reports have column headers to identify the information in the report. You can customize the column headers to suit your requirements. To give appropriate column headers execute the following steps.

1. Double click **Lastcreate** in the Page Header and change it to **Year**. This column displays only the year of the date in the Lastcreate column.

2. From the main menu, go to the **Insert** menu and select **Text Object**. Place the frame next to **Year** in the Page Header.

    a. Type the column name **Orders** in the frame. This column displays the number of orders placed in the given time period.

3. From the main menu, go to the **Insert** menu and select **Text Object**. Place the frame next to **Orders** in the Page Header.

a. Type the column name **Items Ordered** in the frame. This column displays the number of items placed in a single order, which is the Count of Orderitems.Orders_ID.

4. From the main menu, go to the **Insert** menu and select **Text Object**. Place the frame next to **Items Ordered** in the Page Header.

   a. Type the column name **Sales Value** in the frame. This column displays the Calculated Sales Value for an order.

5. Drag and drop **Distinct Count of Orderitems.Lastcreate** under the Orders heading, from the Group Footer to the Group Header. This displays the value of Distinct Count of Orderitems.Lastcreate under the Orders column header, in the generated report.

6. Drag and drop **Count of Orderitems.Orders_ID** under the Items Ordered heading, from the Group Footer to the Group Header. This displays the value of Count of Orderitems.Orders_ID under the Items Ordered column header, in the generated report.

7. From the main menu go to the **Insert** menu and select **Field Object**. From the **Formula Fields** drag and drop **Calculated Sales Value** into Group Header under the **Sales Value** column header.

8. To add a report Header, from the **Insert** menu select **Text Object**. Place the frame in the Report Header and enter the name of the report.

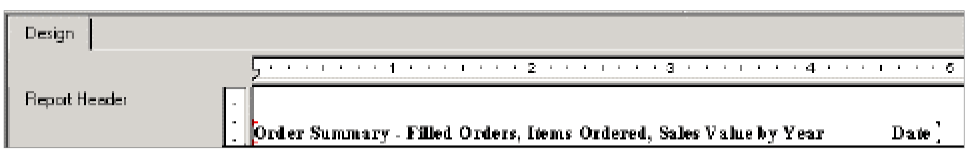

Figure 29: Naming the published report

9. To print the Date in your published report, from the Inset menu select **Text Object**. Place the frame in the Report Header and type **Date**.

a. From the **Insert** menu select **Field Object**. Expand **Special Fields** from the Field Explorer dialog.

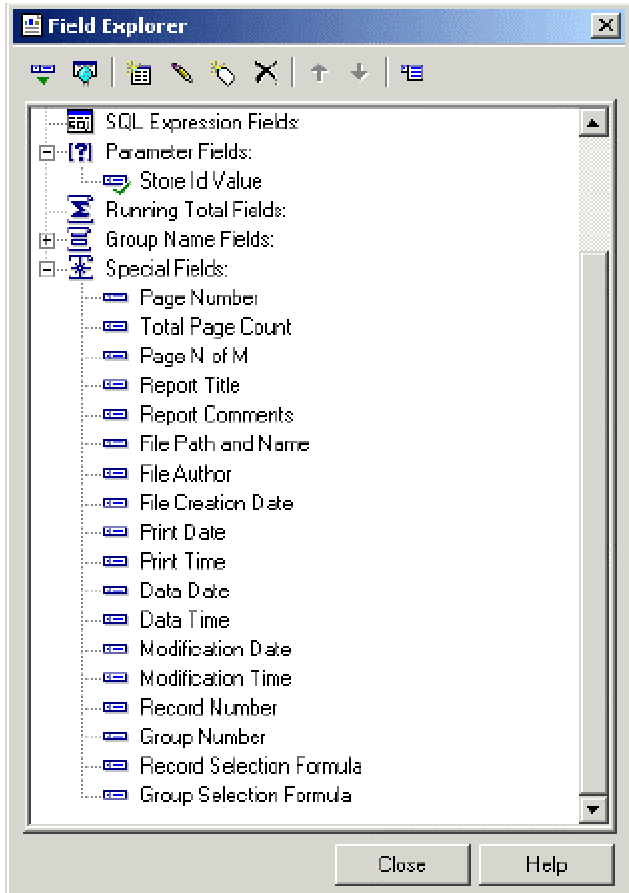

Figure 30: Field Explorer dialog

i) Drag and drop **Print Date** into the Report Header next to Date.

ii) To format the date right click on **Print Date** and select **Format field**.

iii) From the Format Editor, select **1-Mar-99** in this case and click **OK**. This allows you to use your preferred date format.

Hiding rows

To give your report a cleaner look you can hide the rows that you don't want to display. Here, we have used the hide option for the Details and Group Footer rows. To do this, right click on the row that you want to hide and select **Hide (Drill-Down)** from the menu. The hidden rows will be displayed as shown in Figure 31.

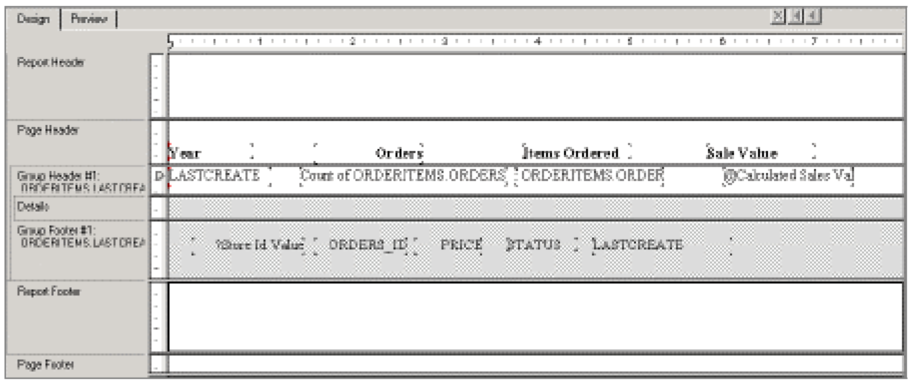

Figure 31: Hiding rows

Formatting the results

This feature allows you to format the query results to suit your business requirements. For example, from the date, which includes day month and year, you can choose to view only the year in your report.

1. To view only the year of the Lastcreate column, right click **Lastcreate** in the Group Header and select **Format Fields.**

    a. From **Date/Time** tab in the Format Editor dialog, select the display **Style**. If the style you require is not in the list, then click **Customize** as shown in Figure 32.

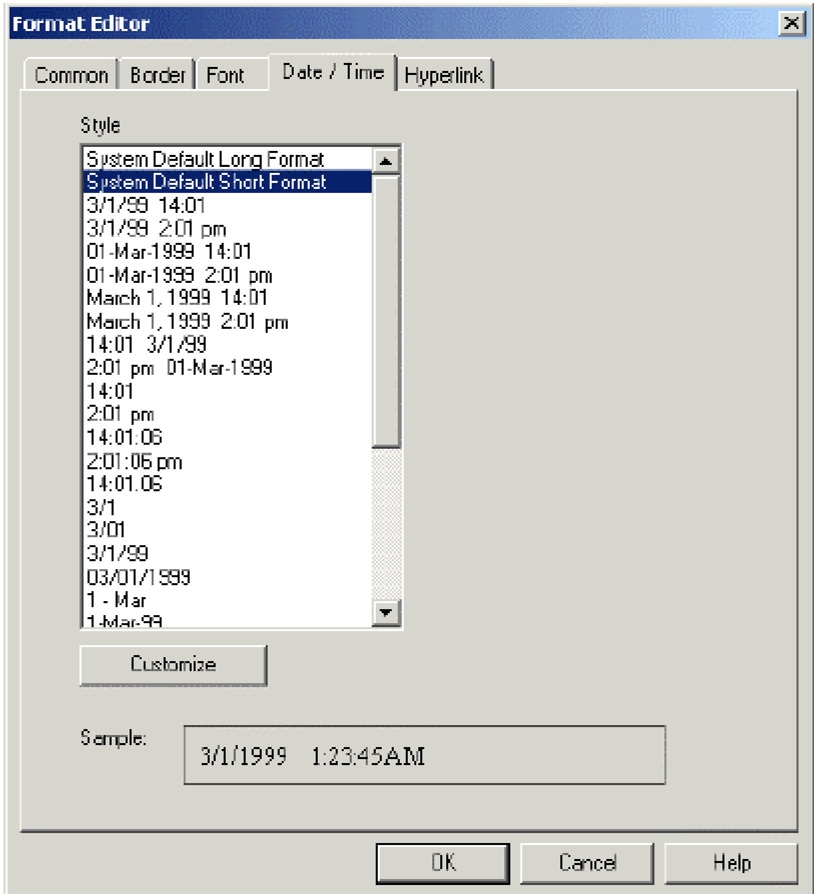

Figure 32: Format Editor dialog

b. From the Custom Style dialog move to the **Date** tab.

i) From the format frame select **None** for the month and day. By doing this you will not see the month and day in your report.

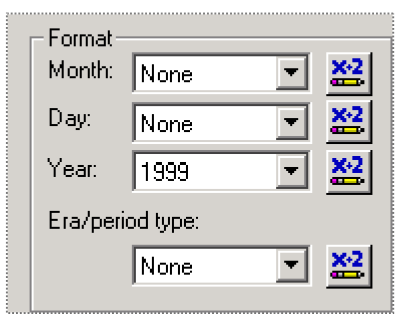

Figure 33: Selecting the date format

c. Click **OK** in the Custom Style dialog to apply the new settings. Click **OK** in the Format Editor dialog.

d. If you don't want the time to be printed in your report, then move to the **Time** tab.

i) Select **24 Hour** as shown in Figure 34.

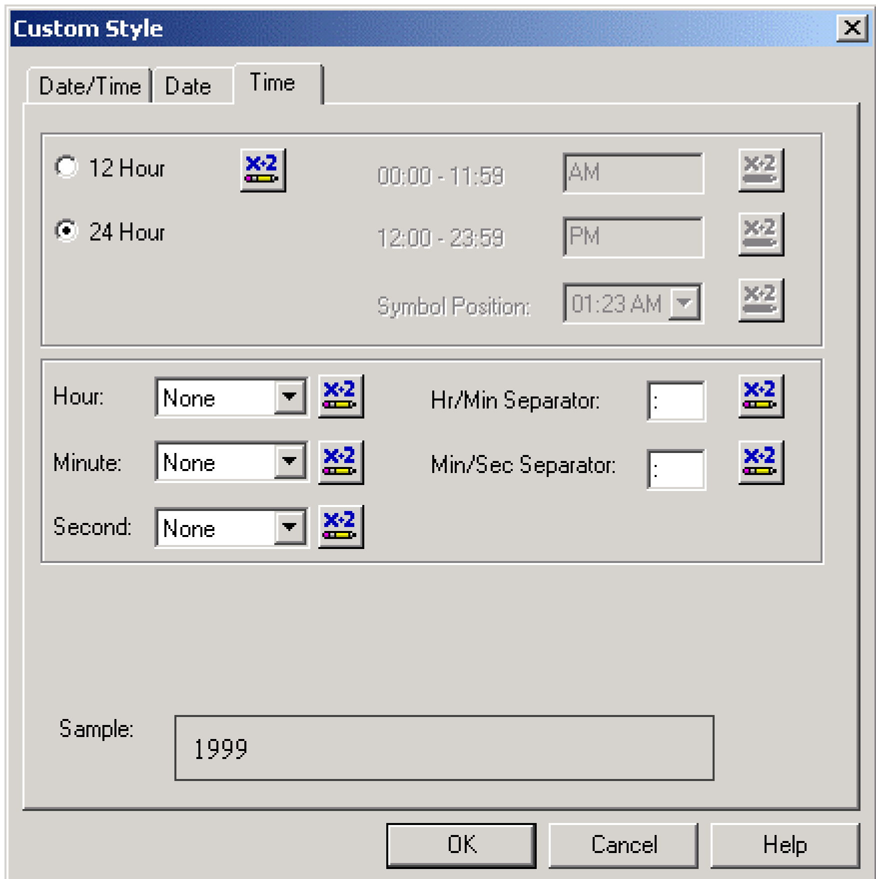

Figure 34: Time tab

ii) Select None from the **Hour** drop down list.

iii) Select None from the **Minute** drop down list.

iv) Select None from the **Second** drop down list.

v) Click **OK** to apply the new settings.

2. Click **OK** in the Custom Style dialog.

Similarly, if you want to format the font, color and alignment, move to the corresponding tabs and make the changes.

Processing the query

1. To view the results of the query you created above, from the tool bar click on the Print Preview icon as shown below.

Figure 35: Preview button

2. The Enter Parameter Values dialog displays.

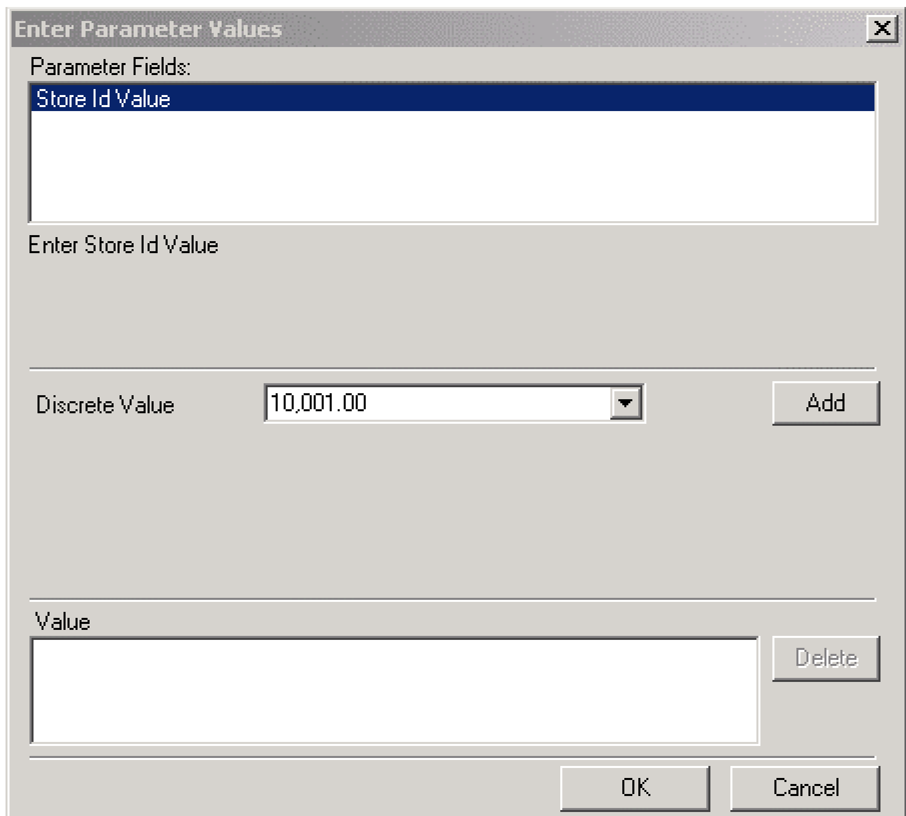

Figure 36: Enter Parameter Values dialog

Parameter values give you the option to change the value of a specified limit at runtime. This allows you to generate multiple reports with a single query by setting different values for the limits of that query.

Here we have enabled the parameter values option for Store ID value. This is the identity of the store you are using to generate the report. Thus, the query created here can be used to generate reports for different stores.

   a. Click **Add** to view the list of Store ID values. The default Store ID value, which is 10001 in this case, displays in the **Value** text area.

b. To add more Store ID values enter the Store ID value in the **Discrete Value** drop down list, for example 10051. This in turn is added to the list of **Value** as shown in Figure 37.

c. Click **OK** to view the results of your report. Repeat this step to add more parameter values.

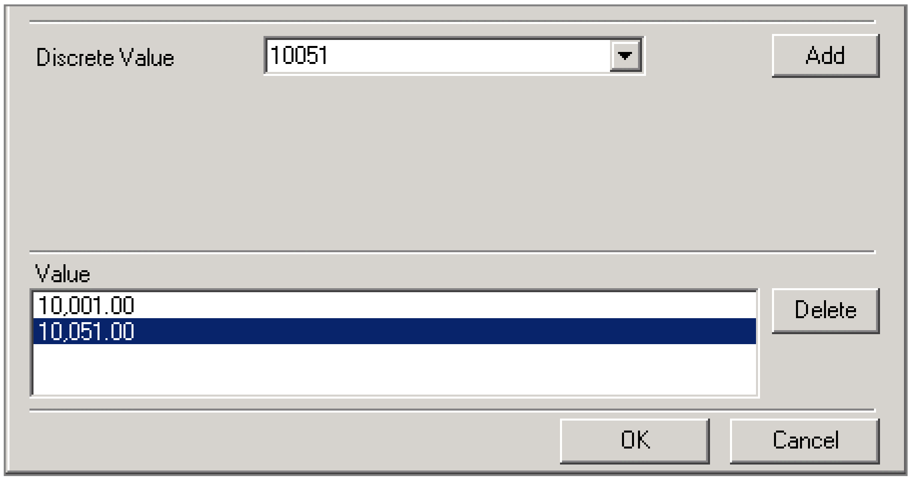

Figure 37: Adding a new Store ID Value

Inserting charts

You can insert charts to your report. Execute the following steps to insert a bar chart.

Inserting bar charts

1. From the **Insert** menu select **Chart**. The Chart Expert dialog displays as shown in Figure 38.

2. From the Chart type list select **Bar**. Select the **Vertical** button. The right side of the dialog displays the different visual effects available for bar charts. Here, we have selected the **3-D visual** effect icon. Refer to Figure 38.

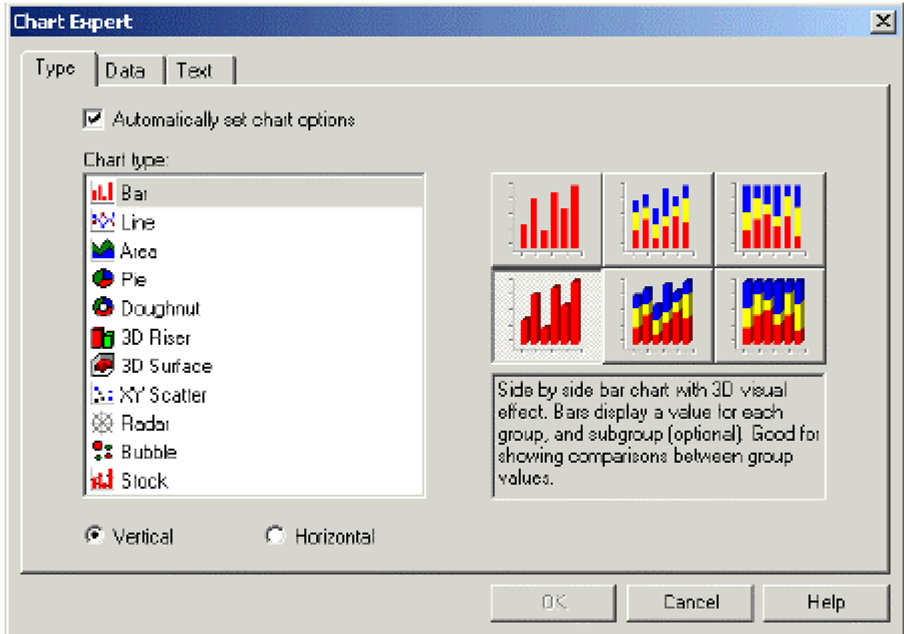

Figure 38: Chart Expert dialog

3. Move to the **Data** tab in the Chart Expert to set the x and y axis of your chart. Note that this chart will show the items ordered on a yearly basis.

   a. From the Layout pane click on **Advanced** as shown below.

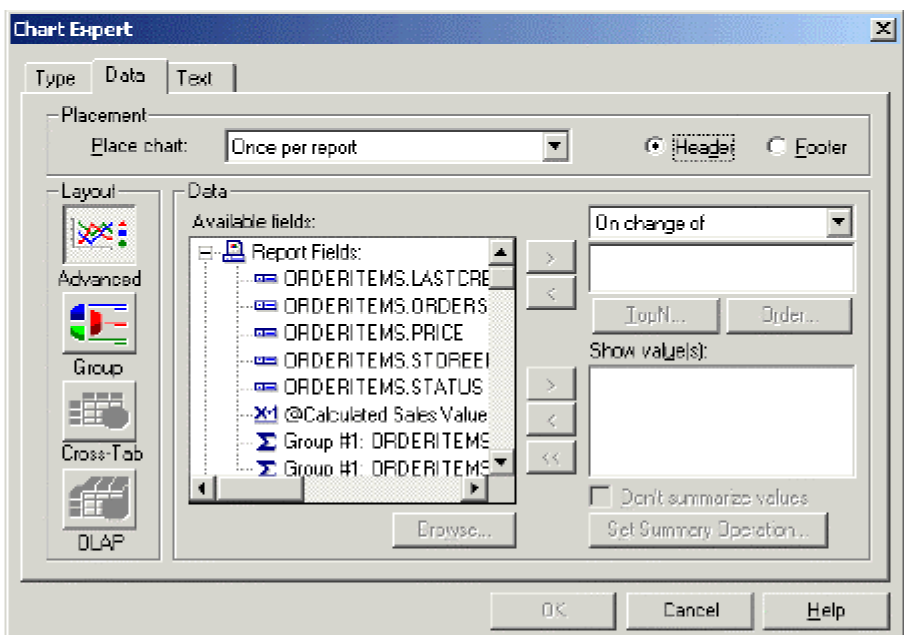

Figure 39: Selecting the Advanced button

b. From the right pane select **On change of** from the drop down list. Here, On change of means on change of year. This is the x-axis of the chart.

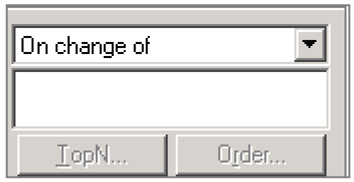

Figure 40: Selecting the On change of condition

c. From the list of Available fields select **ORDERITEMS.LASTCREATE**.

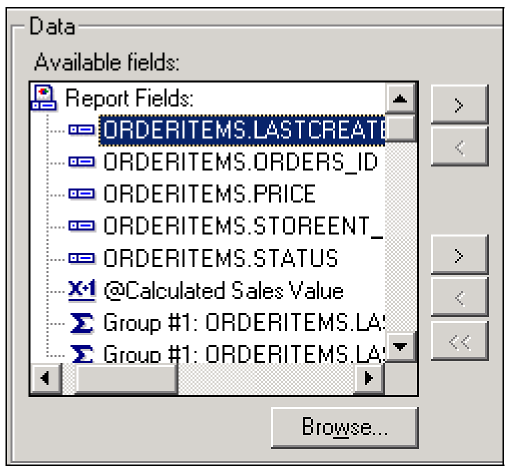

Figure 41: Selecting the Available fields

d. Click the forward arrow to move ORDERITEMS.LASTCREATE into the conditions list as shown below. This is the x-axis of your chart.

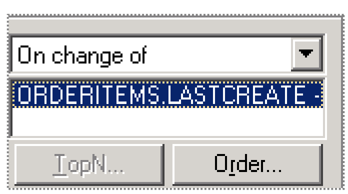

Figure 42: Displaying the x-axis of the chart

e. From the list of Available fields select **DistinctCount of ORDERITEMS.LASTCREATE**. Click on the forward arrow to move it in the Show Values list. This is the y-axis of the chart as shown in Figure 43.

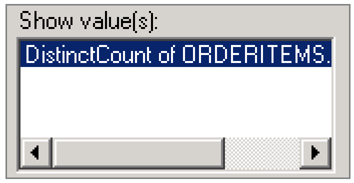

Figure 43: Selecting the y-axis

f. To change the display order of the x-axis select **ORDERITEMS.LASTCREATE** and click **Order** as shown in Figure 44.

Figure 44: Changing the display order

i) From the Chart Sort Order dialog as shown in Figure 45 select **in ascending order** from the Sorted in drop down list as.

ii) From the Chart values shown drop down list, select **for each year** as shown in Figure 45.

iii) Click **OK** to close the Chart Sort Order dialog.

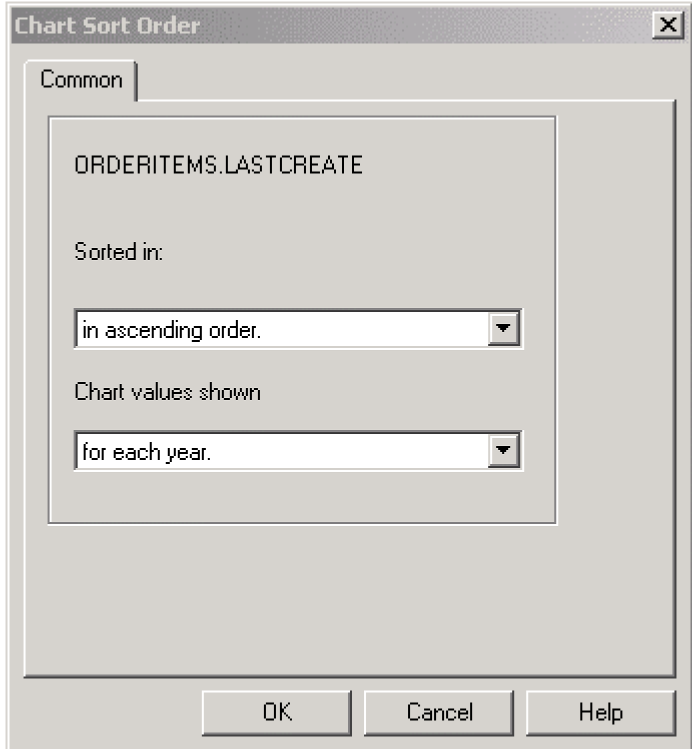

Figure 45: Selecting the display order

g. To display the top or bottom 10 items, or all the items ordered select **ORDERITEMS.LASTCREATE** from the conditions list and click **TopN**. The Top N/Sort Group Expert dialog displays. Here we have restricted the query to the top 10 orders.

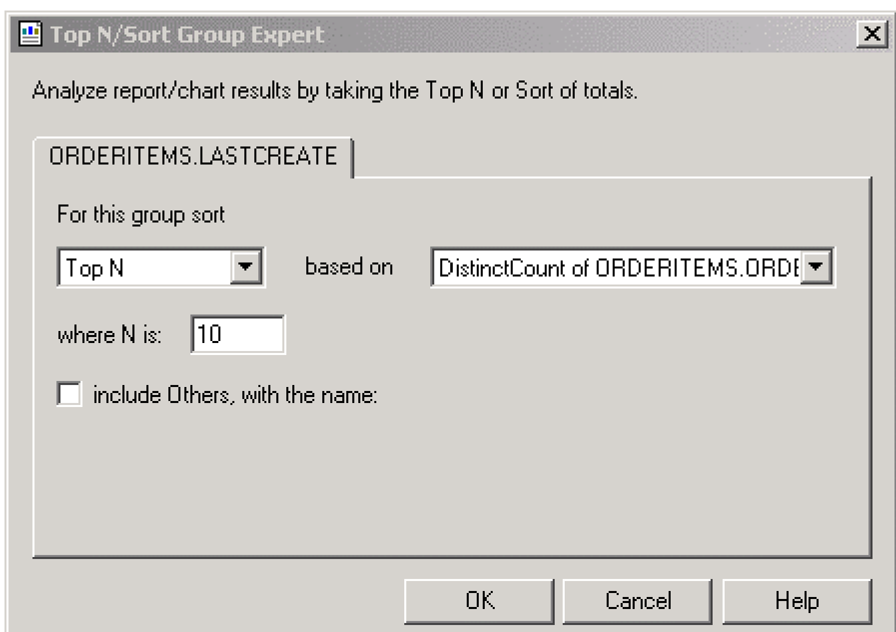

Figure 46: Selecting the Top 10 orderitems

i) From the For this group sort drop down list select **Top N** as shown in Figure 46.

ii) From the based on drop down list select **DistinctCount of ORDERITEMS.ORDERS** as shown in Figure 46.

iii) Enter the value of N, which is **10** in this case as shown in Figure 46.

iv) Uncheck the check box and click **OK** as shown in Figure 46.

h. Move to the **Text** tab in the Chart Expert and execute the following steps as shown in Figure 47 to format the headings of your chart.

i) Uncheck the **Title** checkbox and type the title of your chart in the corresponding filed.

ii) Uncheck the **Group title** checkbox and type **Year**, which is the title of the x-axis, in the corresponding filed.

iii) Uncheck the **Data** title checkbox and type **total number of orders**, which is the title of the y-axis, in the corresponding filed.

iv) Click **OK**.

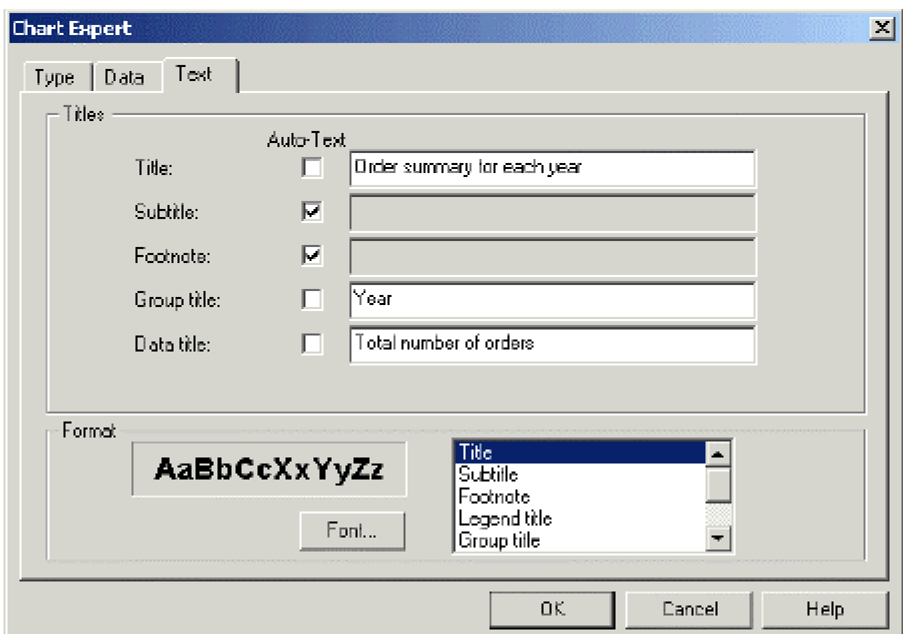

Figure 47: Selecting the titles of the chart

4. By default the chart displays in the Report Header. If you want the chart to appear at the end of the report, after the data, then cut the chart form the Report Header and paste it into the Report Footer as shown in Figure 48.

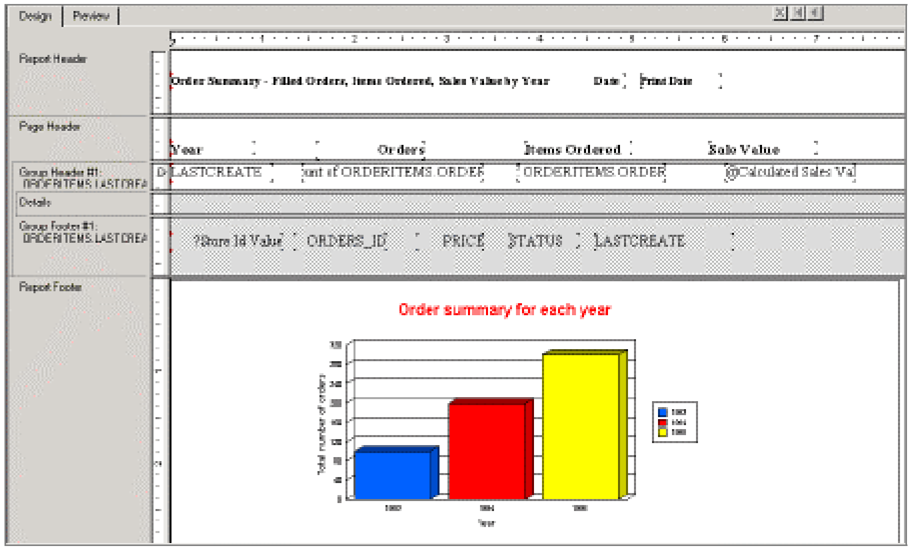

Figure 48: Displaying the chart

5. Click on the **Preview** tab to view the results as shown in Figure 49.

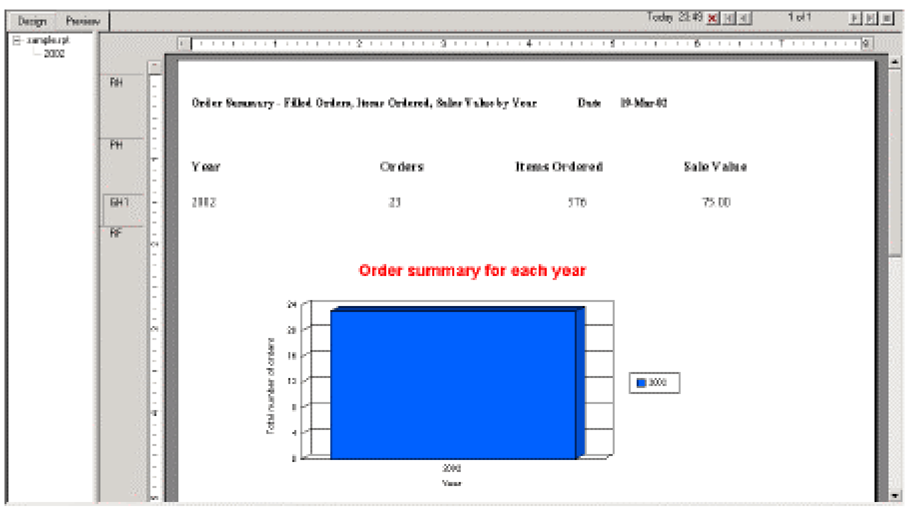

Figure 49: Viewing the results

Inserting pie charts

To insert a pie chart select **Pie** from the Chart Expert as shown in step 2 of the section on Inserting charts. Continue with the remaining steps to insert the pie chart.

Chapter 5. Installing Crystal Enterprise

You can install Crystal Enterprise on any web server that is CGI (Common Gateway Interface) compatible. Here, we have installed Crystal Enterprise on the same machine as Crystal Reports. For the installation procedure refer to the Crystal Enterprise installation instructions that come with the product.

If you are using Crystal Enterprise Professional Edition, then you can use the reports security feature. This feature enables you to give access control to the users.

Installing IBM HTTP Server

To install the Web server version 1.3.19.1 complete the following steps on the Crystal Enterprise machine.

1. Log on as an administrator or a user with administrator privileges.
2. From the IBM HTTP Server installable, double-click **Setup** to start the installation.
3. In the Choose Setup Language window, select your national language from the drop-down menu and click **OK**.
4. Review the content of the Welcome window and click **Next**.
5. Review the content of the Software License Agreement window, and if you accept the conditions, click **Yes**.
6. In the Choose Destination Location window, select the destination folder, and then click **Next**. In this case, we selected **D:\IBM HTTP Server**.
7. In the Setup Type window, shown select **Typical**, then click **Next**.
8. In the Select Program Folder window, accept the default folder and click **Next**.
9. In the Information for Service Setup window, enter the following, and then click **Install**:

- User ID: *administrator ID*
- Password: *admin_password*
- Enter the password again for verification *admin_password*

10. The IBM HTTP Server installation program copies files from the installable to your machine.

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11. When the Setup Complete window appears, select **Yes, I will restart my computer now**, then click **Finish**.

Configuring IBM HTTP Server

If you are using the IBM HTTP Server with Crystal Enterprise, then you need to configure the IBM HTTP Server. To do this download the configuration file from ftp://ftp.crystaldecisions.com/outgoing/EHF/ce80ihs.zip. Read the instructions in this file before installing Crystal Enterprise and configuring the IBM HTTP Server.

Chapter 6. Organizing reports

Before you publish your report you can decide on the directory structure that you will use to store your report. Use the Crystal Management Console to create the directory structure. For example, here we will create the main folder OrderSummary, where you can publish the OrderSummary report.

1. From the **Start** menu, go to **Programs**, **Crystal Enterprise** and select **Crystal Launchpad**.

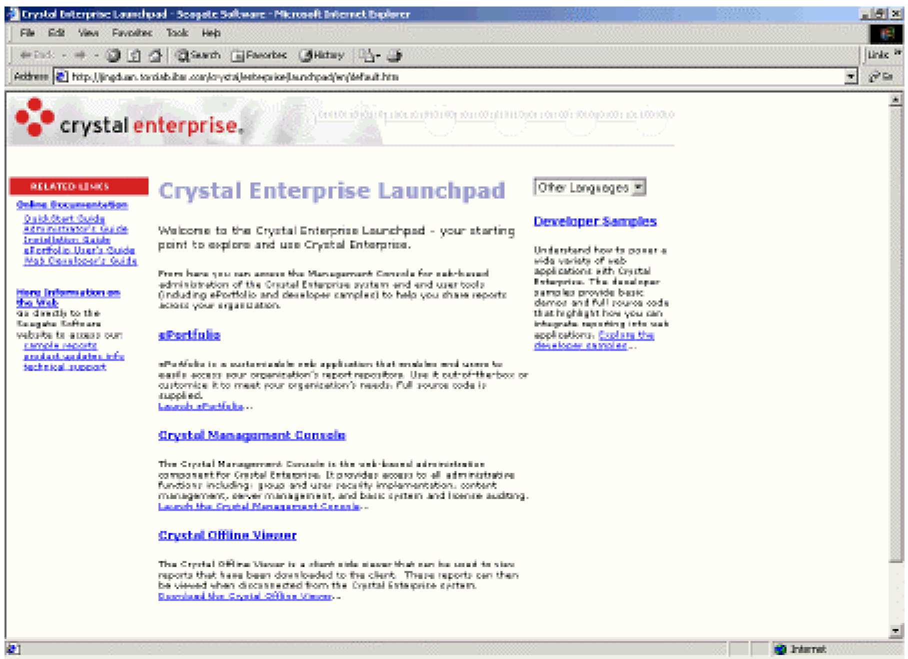

Figure 50: Crystal Enterprise Launchpad

2. Click **Launch the Crystal Management Console**.

3. Enter the **User Name** and **Password** and click **Log On** as shown Figure 51. In this case we are using the default User Name, Administrator, which does not require a Password.

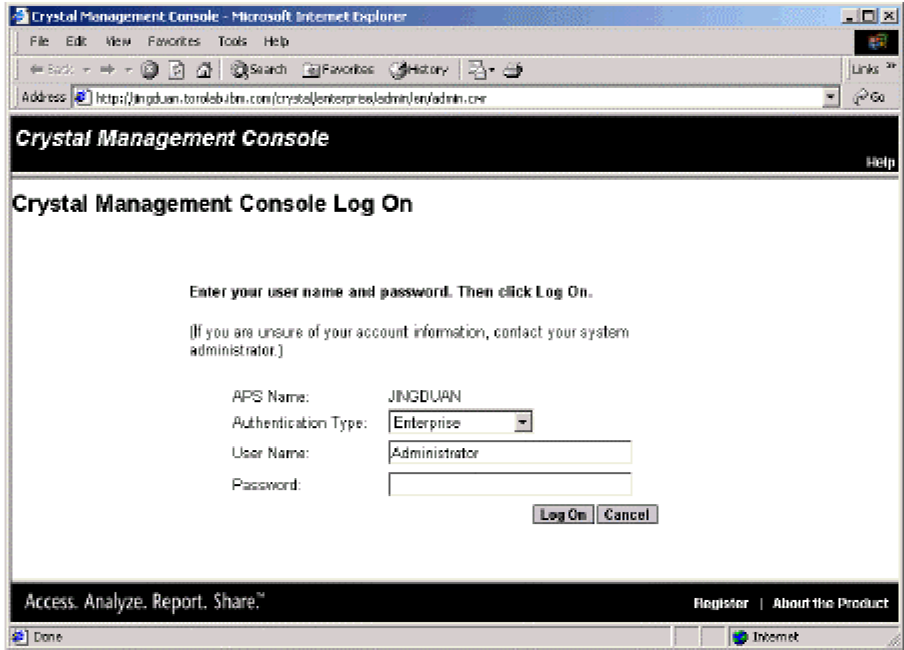

Figure 51: Enter User Name and Password

4. From the left pane click **Folders.**

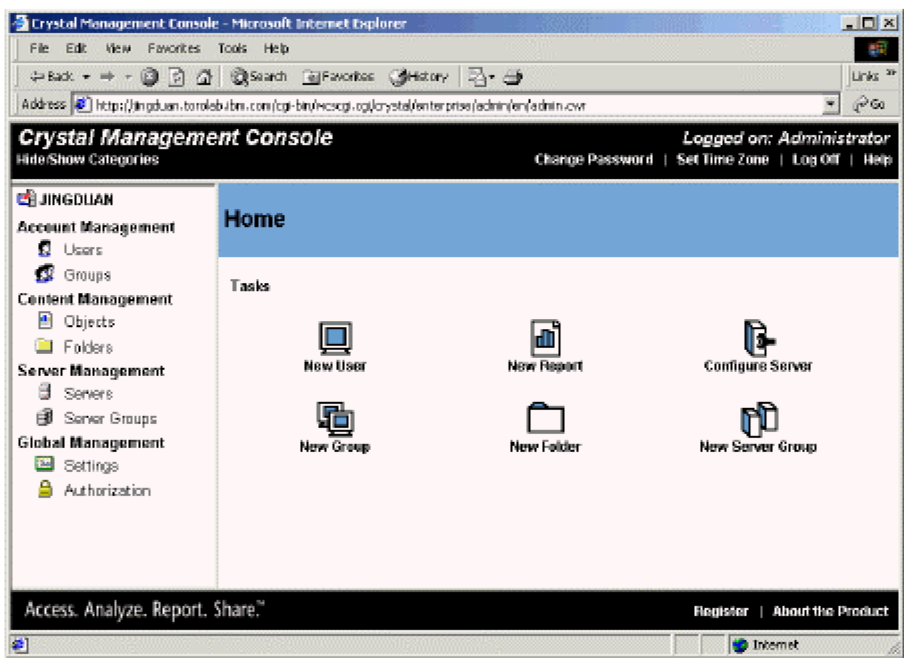

Figure 52: Selecting Folders

5. To create a new folder, for example OrderSummary, click **New Folder** in the top right corner of the screen.

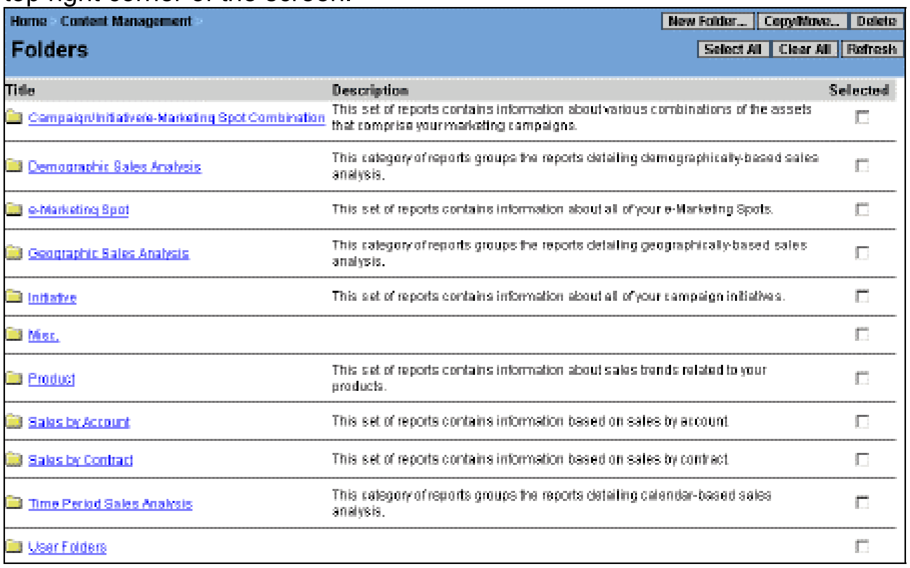

Figure 53: Creating a new folder

a. Enter the **Folder Name** as shown below.

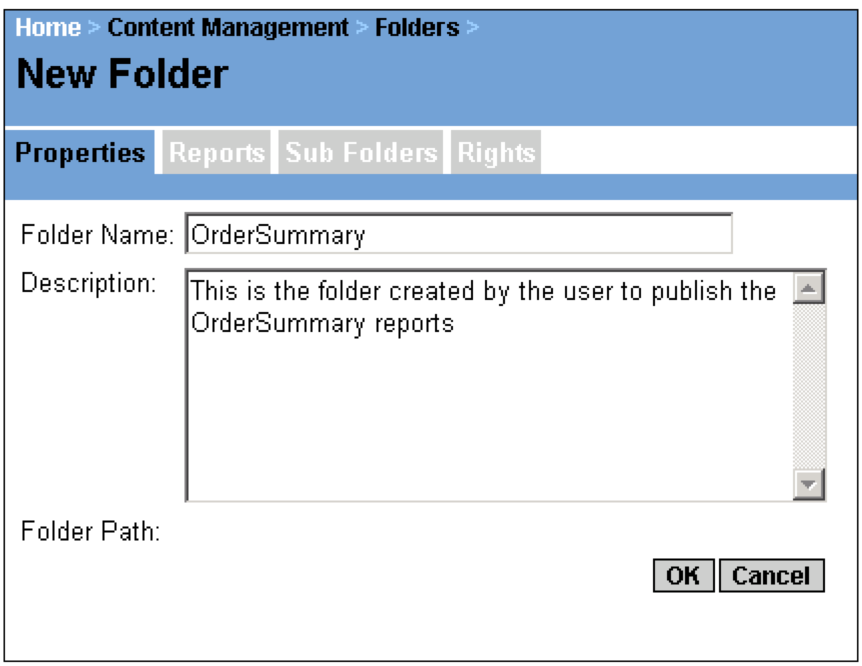

Figure 54: Creating a new folder

b. Enter the **Description** as shown in Figure 54.

c. Click **OK** as shown in Figure 54. The **Reports, Sub Folders and Rights** buttons are enabled as shown in Figure 55.

Figure 55: Properties of the new folder

6. To add a report to the OrderSummary folder click on the **Reports** button as shown in Figure 56.

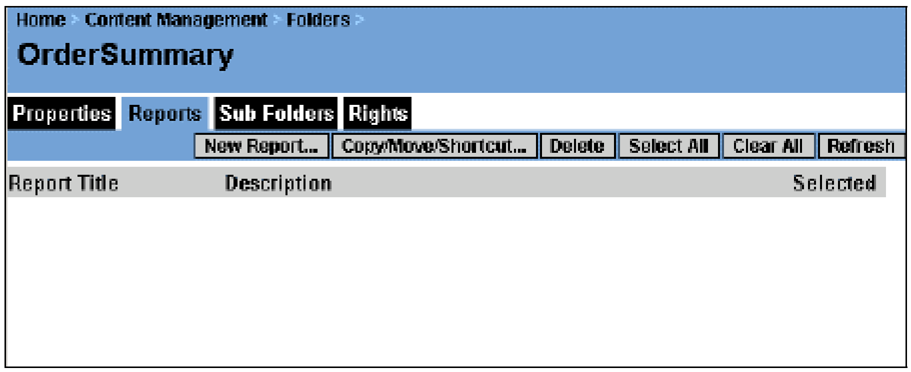

Figure 56: Adding a new report to the sub folder

   a. Click **New Report** as shown in Figure 56.

   b. **Browse** for the report you want to add. For example, sample.rpt

   c. Select the folder to which you want to add the report from the drop down list. In this case it is **OrderSummary**.

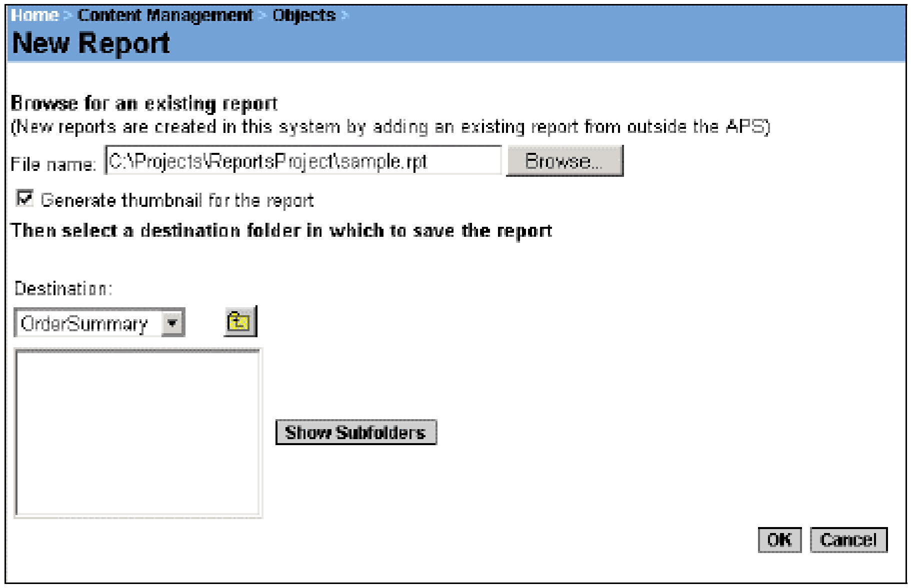

Figure 57: Browsing for the report and adding it to the sub folder

d. Click **OK** to add the report to the folder.

7. To view the default user and their rights click the **Rights** button as shown in Figure 58.

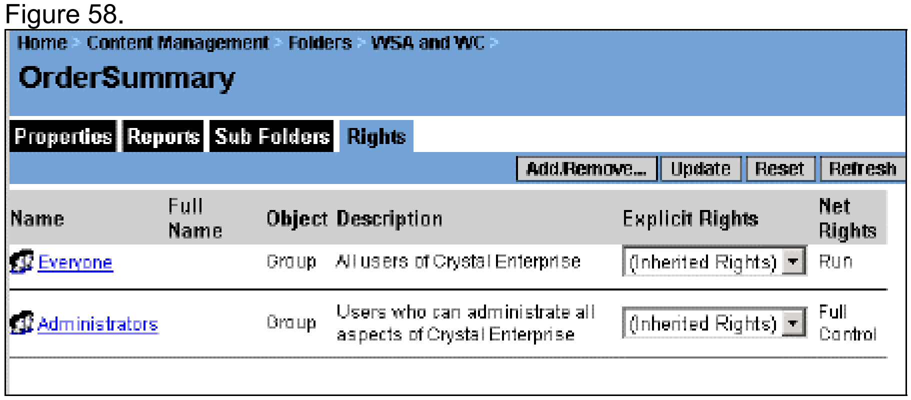

Figure 58: viewing the rights given to the users

a. To modify the rights of Everyone and Administrators from the respective drop down lists, select **No Access**, **View**, **Run** or **Full Control**.

8. To view the directory structure that you have created, click **Folders** in the left pane as shown below. This displays the top-level folder.

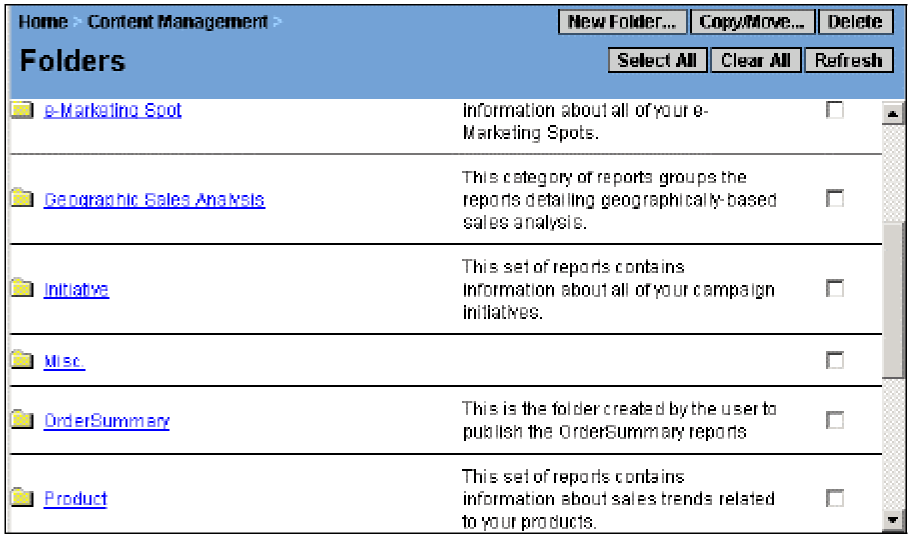

Figure 59: Viewing the directory structure

   a. Click the **OrderSummary** folder to display the reports.

Deleting folders

Execute the following steps to delete a folder.

1. Click **Folders** in the left pane as shown in Figure 59 to view the existing folders.

2. From the list of folders select the check box corresponding to the folder that you want to delete and click **Delete** in the top right corner of the screen as shown in Figure 60.

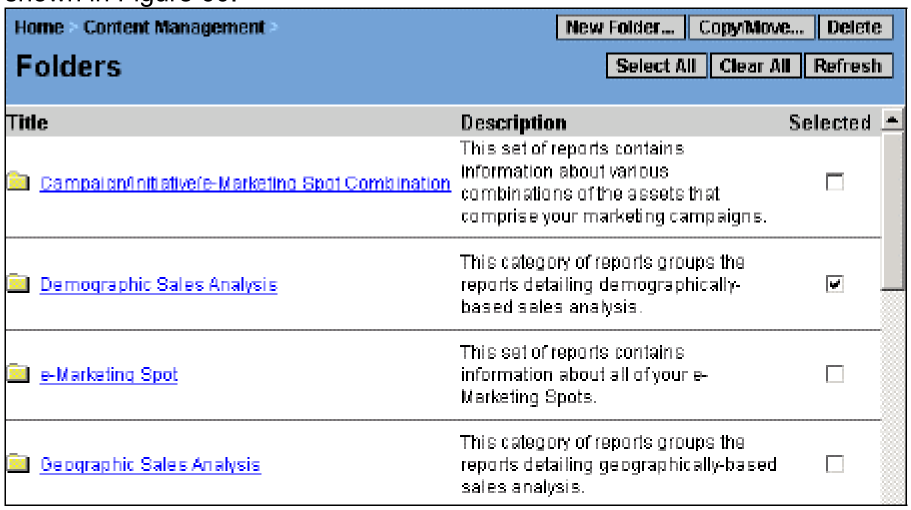

Figure 60: Deleting a folder

3. To delete a report select the folder where the report is stored.

   a. Click the **Reports** button. This displays the reports present in the folder.

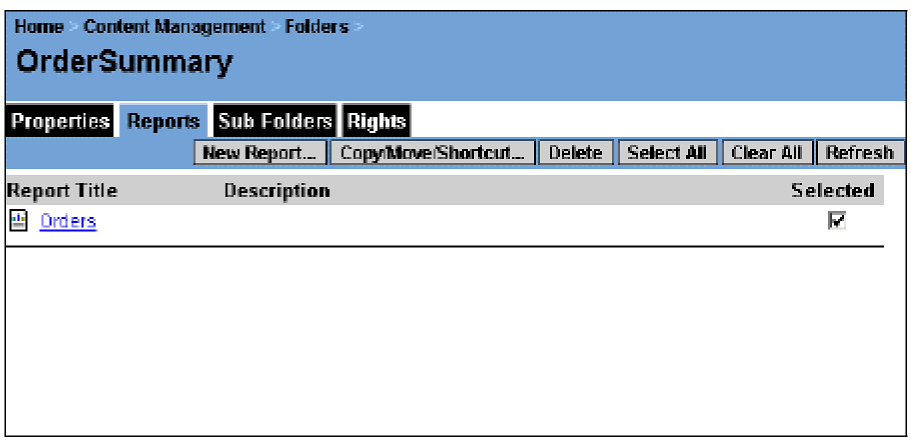

Figure 61: Deleting a report

   b. Select the check box corresponding to the report name that you want to delete.

   c. Click **Delete** as shown in Figure 61.

Chapter 7. Publishing reports

After you complete setting up the folder structure you are ready to publish your report. You can publish the repots from the Crystal Management Console. Here, we have used the Crystal Publishing Wizard to publish the report. It involves the following steps.

1. To access the Crystal Publishing Wizard from **Start** menu go to **Program, Crystal Enterprise** and select **Crystal Publishing Wizard**. The Crystal Publishing Wizard displays as shown in Figure 62.

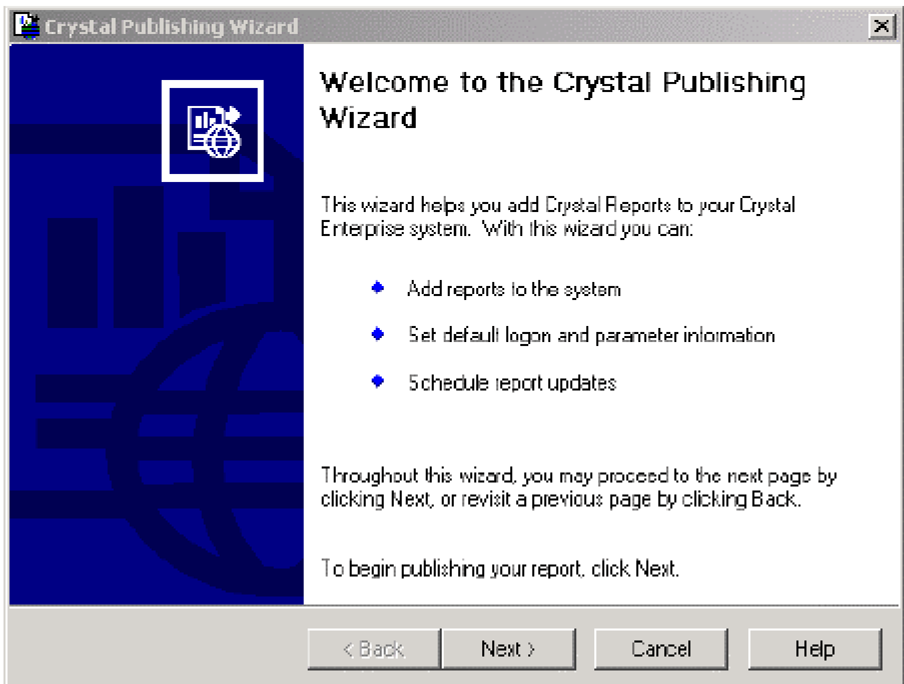

Figure 62: Crystal Publishing Wizard

2. To begin publishing your report, click **Next** in the Welcome to Crystal Publishing Wizard screen.

Note:

You have an option here to publish single or multiple reports.

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Publishing a single report

1. Click **Find File** and **Open** the report you have created. For example, sample.rpt. Click **Next.** To publish multiple reports check the **Add multiple reports** checkbox.

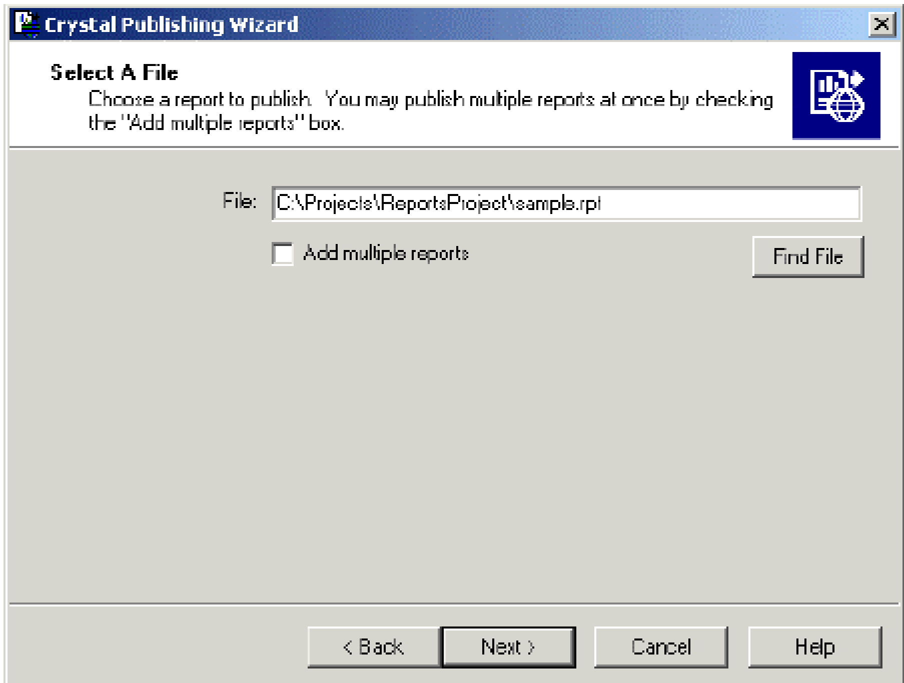

Figure 63: Finding the report to be published

2. Note that the default **Authentication** is Enterprise. **APS** is the machine name where Crystal Enterprise is installed. In this case we have installed Crystal Enterprise and Crystal Reports on the same machine. The default **User Name** provided by Crystal Enterprise is Administrator. Here, we are using the default User name and it does not require a **Password**. Click **Next** as shown in Figure 64.

Note:

You can change the default User Name from the Crystal Management Console, using the Crystal Launchpad. Refer to the *Crystal Administration Guide.*

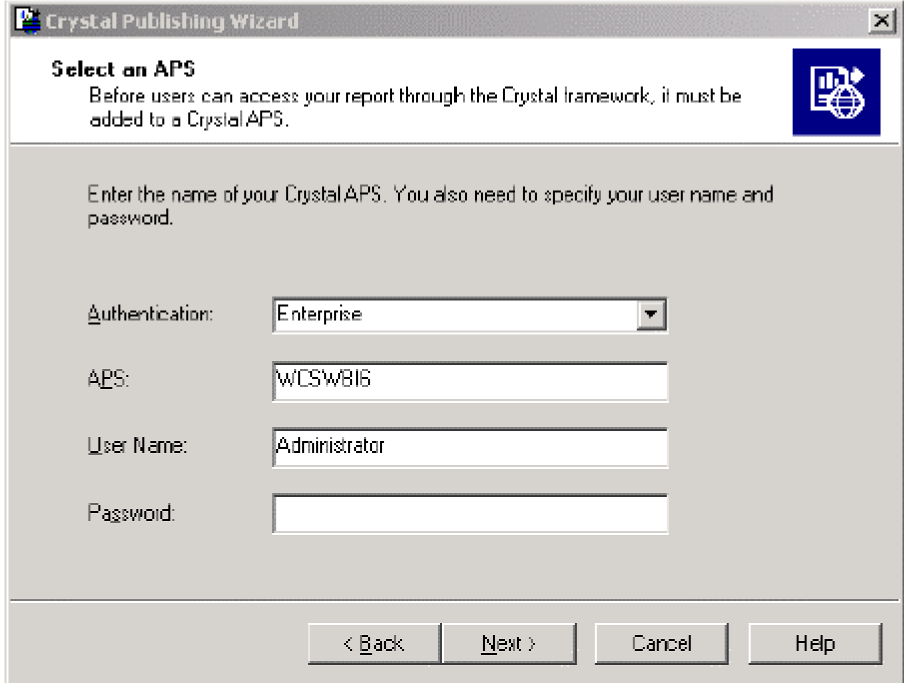

Figure 64: Entering User Name and Password

a. To publish the report in the directory structure that you have created, expand **OrderSummary** as shown in Figure 65. This displays the report.

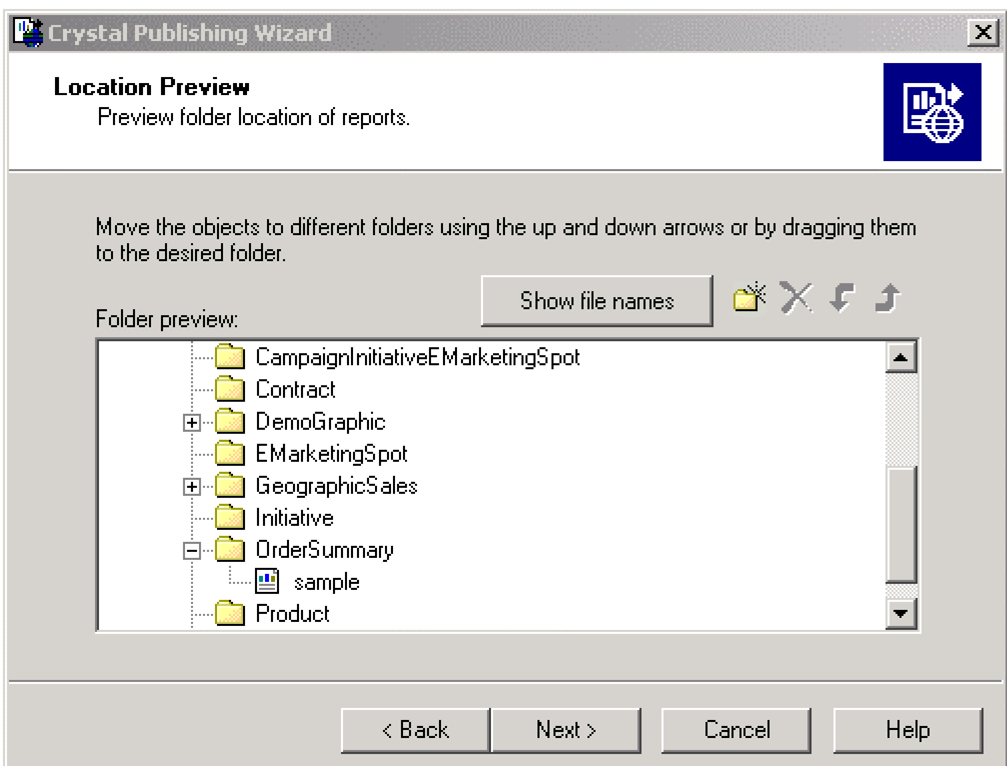

Figure 65: Displaying the new folder

b. To view the full path of the report click **Show file names** as seen in Figure 65. Click **Next**.

3. From the Schedule Interval dialog select the Schedule option, **Let users update the object.** Click **Next**.

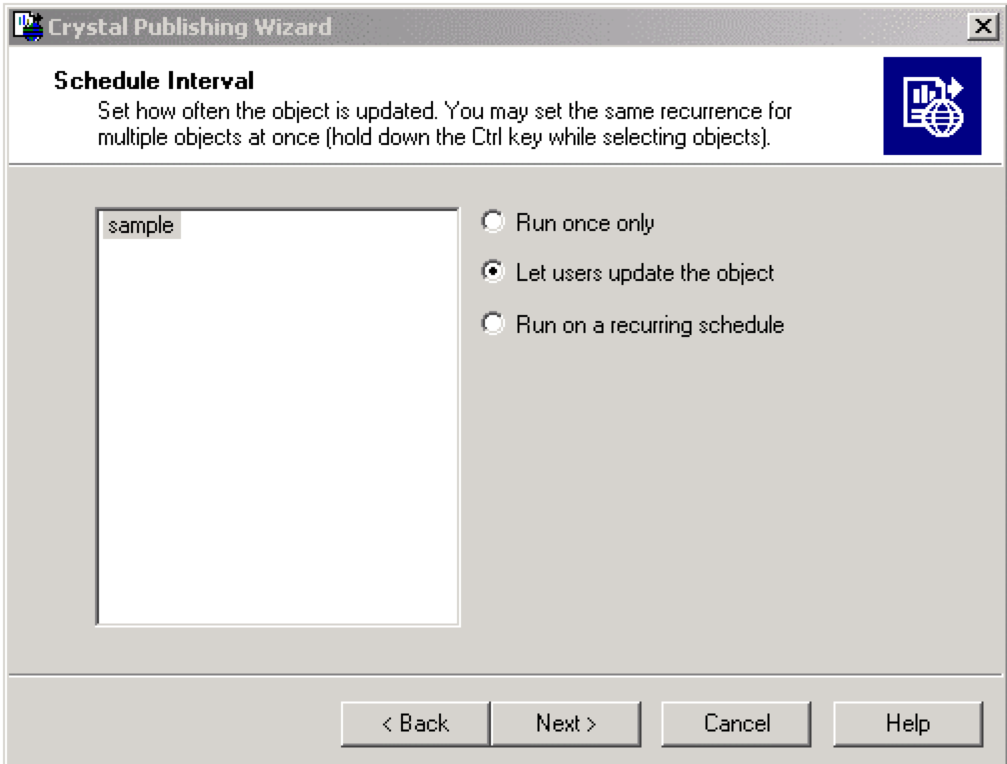

Figure 66: Selecting the type of schedule

4. You can publish the report without modifying the report properties. Selecting this option will use the User Name and Datasource specified when creating the report. Here, we have selected **Review or modify report properties** as shown in Figure 67. Click **Next**.

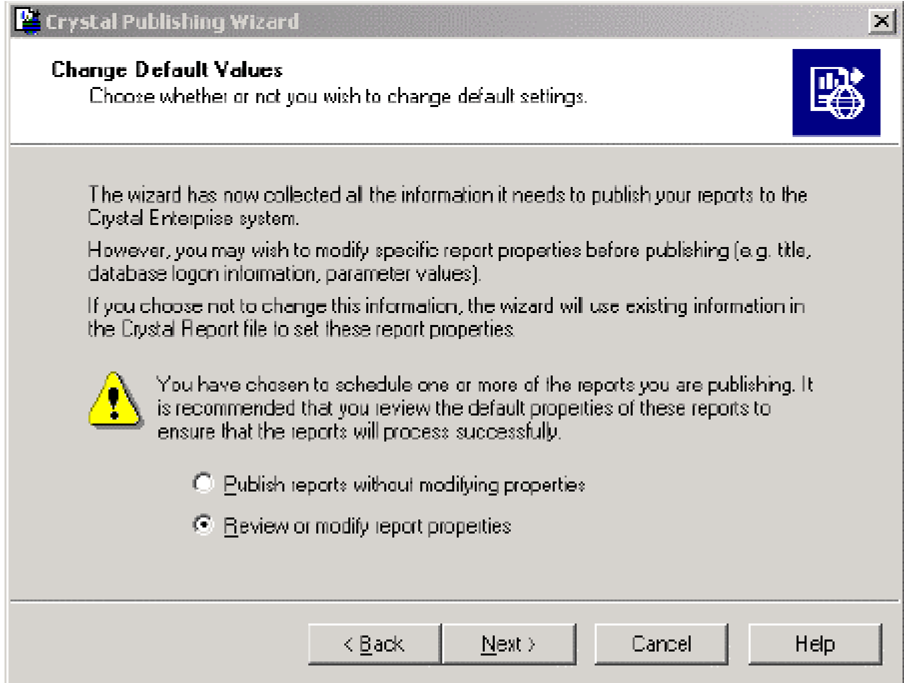

Figure 67: Review or modify report properties

a. The Review report properties screen displays. Enter the description of the report and click **Next**.

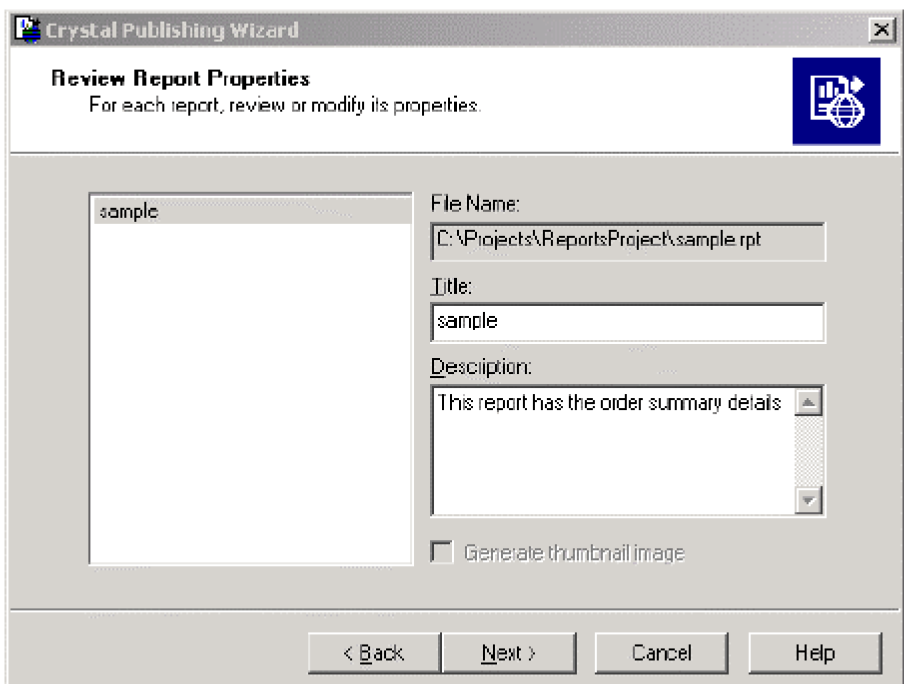

Figure 68: Review report properties dialog

5. From the Database logon dialog expand **OrderSummary** and select the **datasource name,** irismall in this case. Enter the database **User name** and **Password**.

Note:

For multiple reports there is an option to assign a single user name and password for all the reports.

6. The Set Report Parameters dialog displays the default Store ID value specified when creating the report. To edit this value click the **Edit Prompt** as shown in Figure 69.

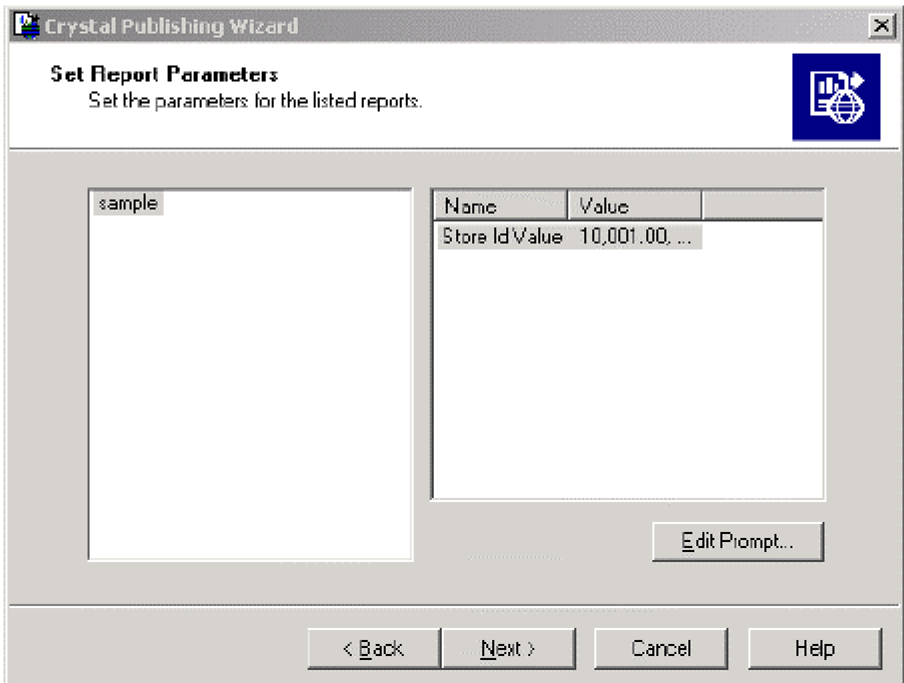

Figure 69: Set Report Parameters dialog

a. Enter the new Store ID value in the **Value** drop down list and click **Select**.

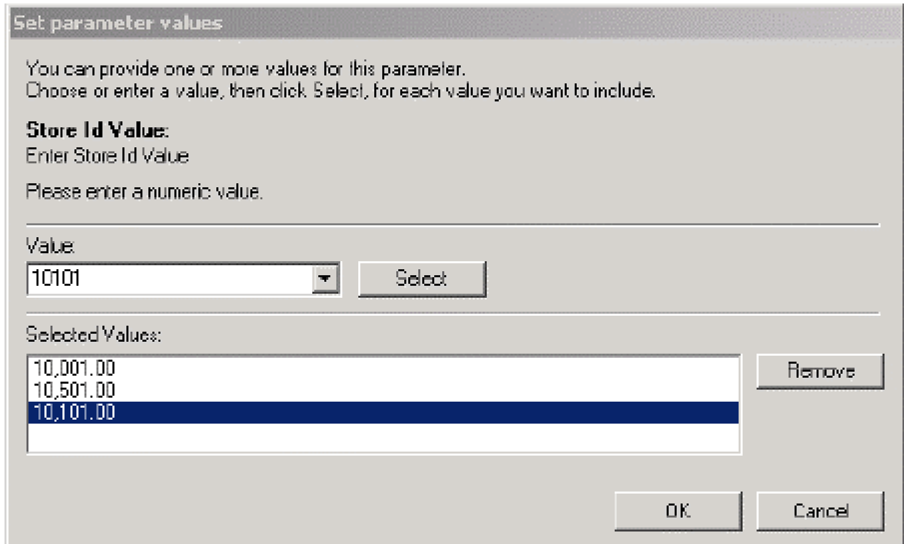

Figure 70: Set Parameters Values dialog

b. Click **OK** in the Set parameter values dialog.

c. Click **Next** to continue as shown in Figure 71.

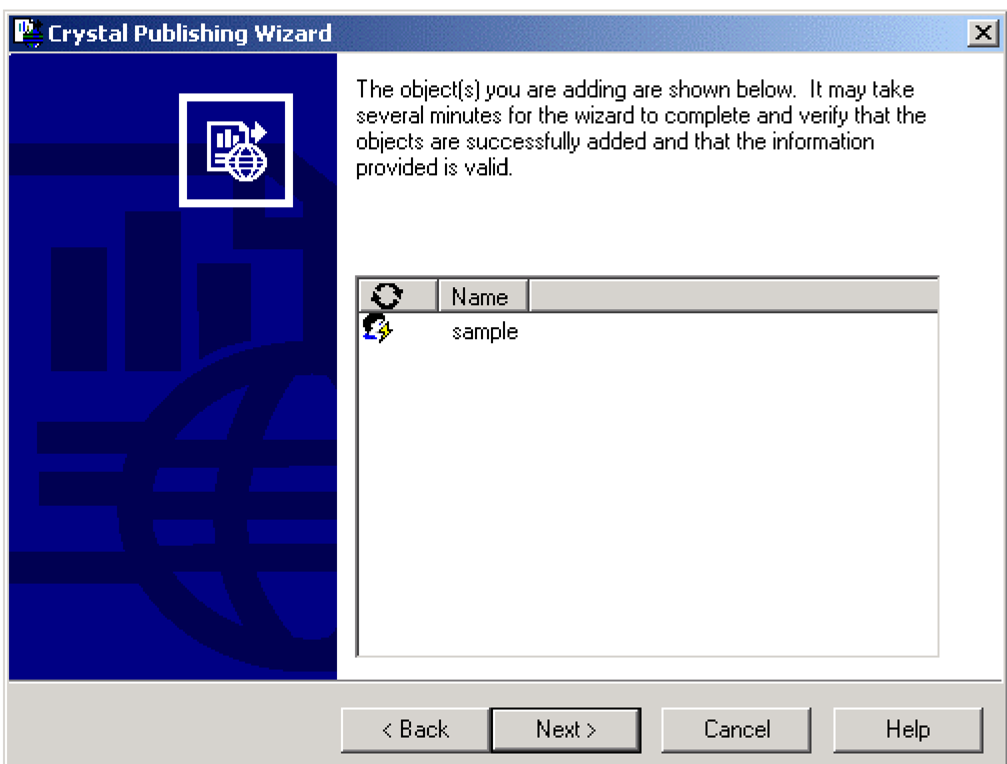

Figure 71: Displaying the object added

7. Click on the report name, which is **sample** in this case. If the report is published successfully, the **Details** text area displays the message **Object committed to APS successfully.** Click **Finish.** If you see an error message in the **Details** text area republish the report.

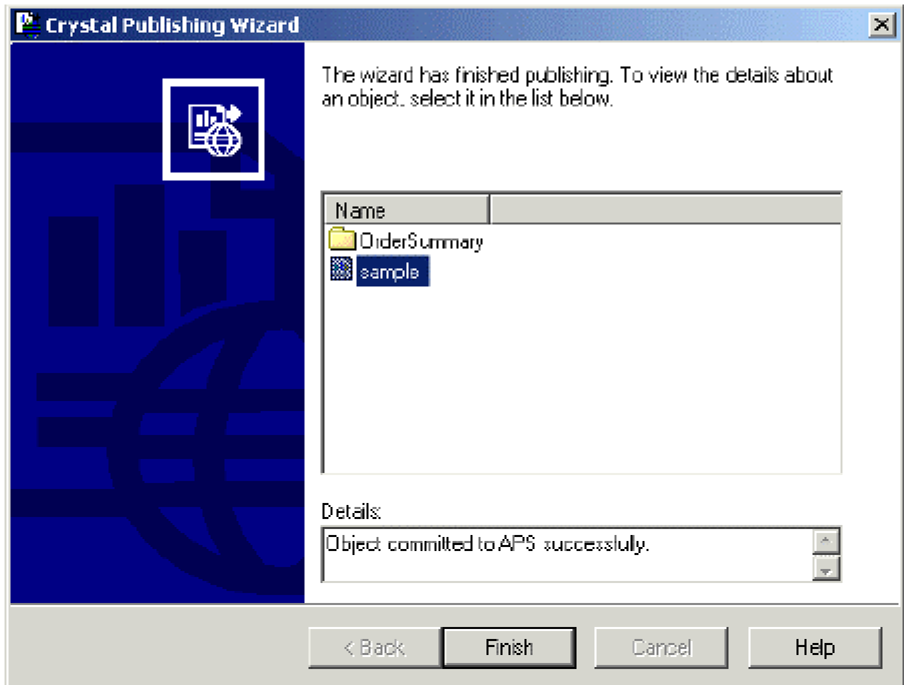

Figure 72: Displaying the report name

Chapter 8. Integrating Crystal Enterprise with WebSphere Commerce

You can view the published reports through Crystal Enterprise Management Console, Crystal Enterprise ePortfolio and WebSphere Commerce Accelerator. To view the reports from WebSphere Commerce Accelerator execute the following steps.

1. In WebSphere Commerce Accelerator, add a submenu, **Online Reports** under the **Store** menu.

    a. If you are using a B2B store, open the XML CommerceAcceleratorB2B.xml in `websphere_install_directory\CommerceServer\xml\tools\common`

       If you are using a B2C store, open the XML CommerceAcceleratorB2C.xml in `websphere_install_directory\CommerceServer\xml\tools\common`.

    b. Find the entry corresponding to "Business Intelligence Reports" as shown below:

```
      <node  name="biReports"
       component="CommerceAnalyzer"
url="/webapp/wcs/tools/servlet/ShowContextList?contex
t=store&amp;contextConfigXML=bi.biContext&amp;ActionX
MLFile=bi.biRptStoreContextList"
users="buyer podMgr makMgr seller catMgr" />
```

    c. Add the following menu entry after the bireports node entry given above.

```
      <node  name="OnlineReports"
       url="/wcs/tools/crystal/CrystalIntegration.htm"
        users="buyer podMgr makMgr seller salesMgr
        actRep catMgr" />
```

Create a directory, **crystal** in the following path:

`was_installation_direcotory\AppServer\installedApps\WC_Enterprise_App_demo.ear\wctools.war\tools`

    d. Copy the file `CrystalIntegration.htm` to the crystal directory created in step 1 c. You can find `CrystalIntegration.htm` in the integration kit that you have downloaded.

    e. Open `CrystalIntegration.htm`. Replace the tag IP Address of Crystal Enterprise with the IP address of the machine where you have installed Crystal Enterprise.

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The changes in the above XML require a property file entry to reflect on the GUI. The property file that you need to change is *was_installation_direcotory*\AppServer\installedApps\WC_Enterprise_App_demo.ear\properties\com\ibm\commerce\tools\properties
mccNLS.properties and mccNLS_en_US.properties.

Note:

In this case the entry is made in mccNLS_en_US.properties file is en_US as we are using the English version of WebSphere Commerce. If you are using another language version of WebSphere Commerce, change the corresponding property file. For example, mccNLS_de_DE.properties for the German version of WebSphere Commerce.

f. In the properties file, find the entry for biReports=Business Intelligence reports. Similarly add another entry **OnlineReports=Online Reports**. This is the link reflected in the GUI. Here, **Online Reports** is an example. If you want to rename the link to Crystal Reports, then change the entry to **OnlineReports=Crystal Reports**. Refer to Figure 73.

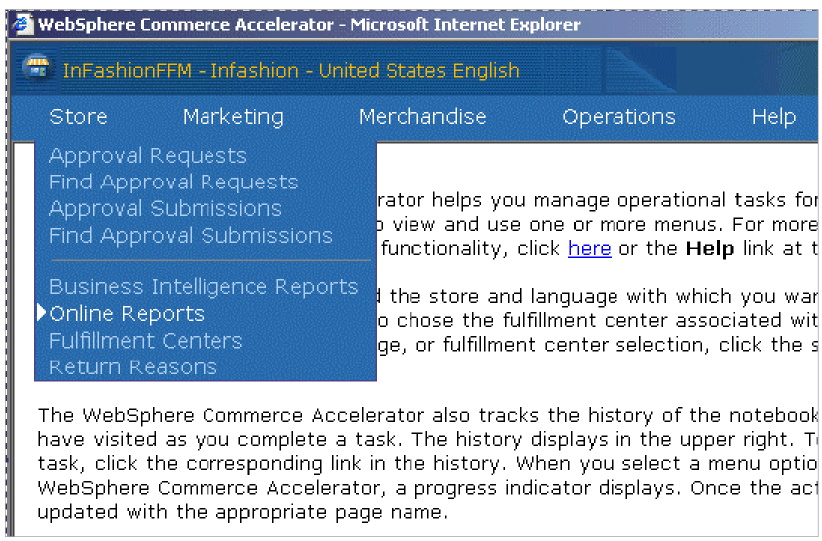

Figure 73: Selecting Online Reports

g. Save both these property files and restart the instance. The figure shown above displays the Online Reports submenu item after you access WebSphere Commerce Accelerator.

2. To display the Crystal ePortfolio from WebSphere Commerce Accelerator browser, modify the showreportsscripts.js in *crystal_install_path*\Web Content\Enterprise\eportfolio\en

Look for the //SET WINDOW PROPERTIES FOR REPORT VIEWER section. In that section find and comment the following line by adding 2 forward slashes as shown below.

```
//reportWindow =
window.open("reportviewer.csp?reportNumber=" +
reportNumber + "&reportName=" + escape(reportName) +
"&reportType=" + reportType + "&expo=" +
expo,winName,winProps);
```

Copy and paste the following line, immediately after the line you have commented above.

```
location.href="reportviewer.csp?reportNumber=" +
reportNumber + "&reportName=" + escape(reportName) +
"&reportType=" + reportType + "&expo=" + expo;
```

Save this file.

Chapter 9. Viewing reports

You can view the reports from the WebSphere Commerce Accelerator through Crystal Enterprise ePortfolio. Execute the following steps to view the reports.

1. From the **Start** menu go to **Programs**, **IBM WebSphere Commerce** and select **WebSphere Commerce Accelerator**.

2. Enter your **User name** and **Password**. Click **Log On**.

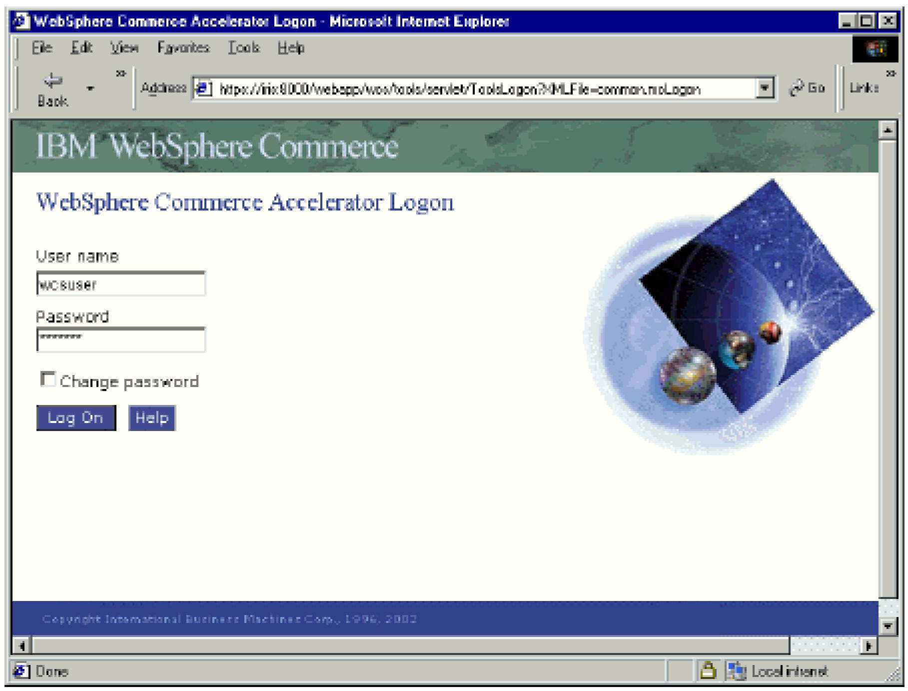

Figure 74: WebSphere Commerce Accelerator Logon screen

3. Select the **Name** of your store as shown in Figure 75. Select **Language** from the drop down menu. Select the **Fulfillment Center** and click **OK**.

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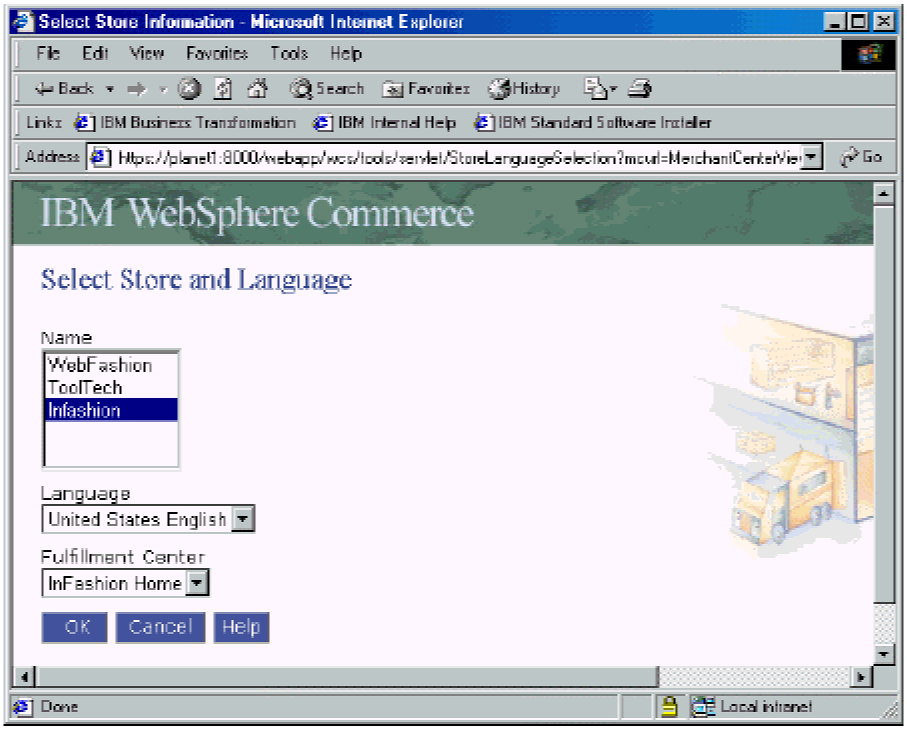

Figure 75: Select store and language screen

4. From the **Store** menu select **Online Reports**.

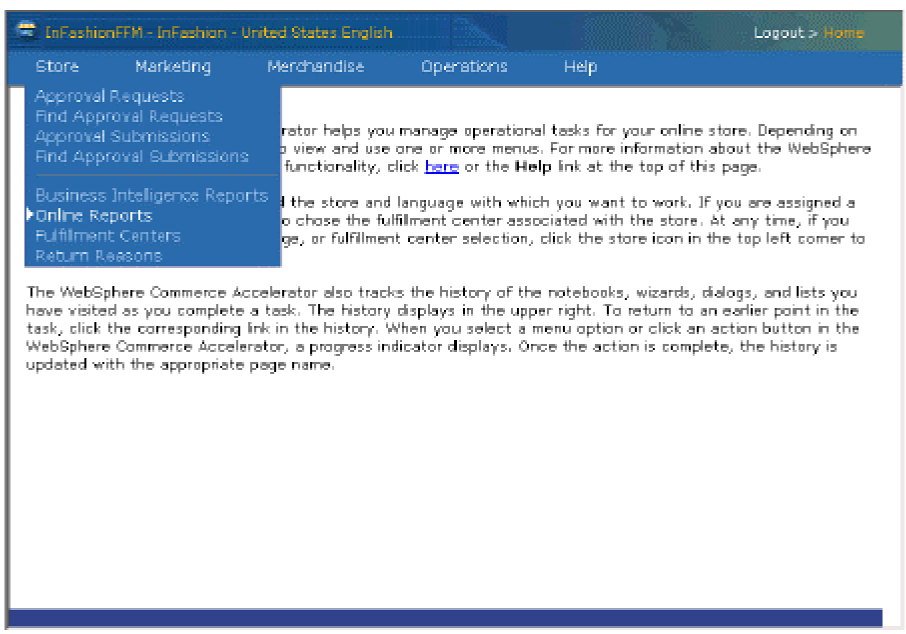

Figure 76: Selecting Online Reports

5. Click **Yes** if the Security Information dialog pops up.

6. If the folder you created when publishing the reports is not listed in the folders list, then **Look for** the folder. Select **folder title** and click on **Search.**

Figure 77: Looking for the reports

7. Click on **OrderSummary** from the Folders list. This is the folder where you have published your report.

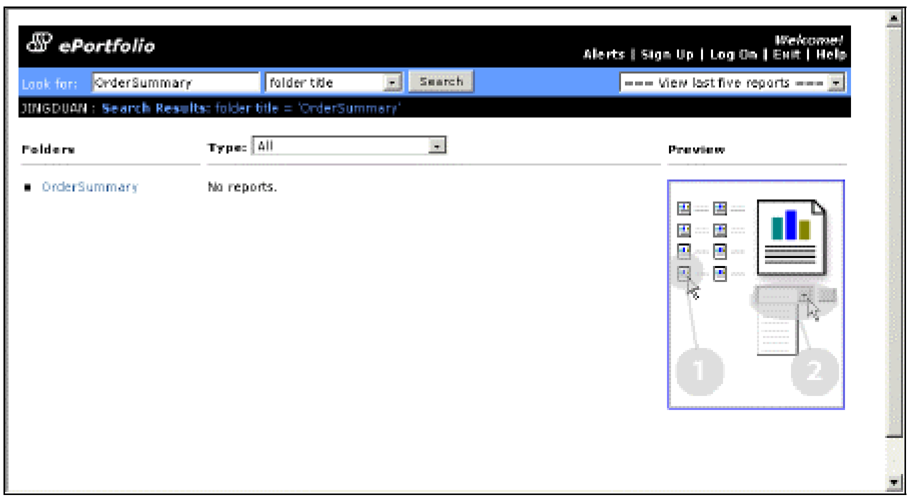

Figure 78: Selecting the OrderSummary folder

8. Click on the report icon as shown in Figure 79.

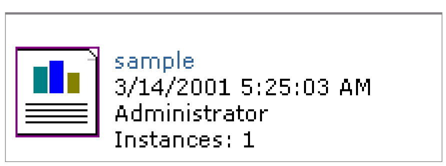

Figure 79: Report icon

9. From the dropdown list on the right side select **View** and click **Go.** To view the report Schedule, History, or View Last Instance, select it from the drop down list and click **Go**.

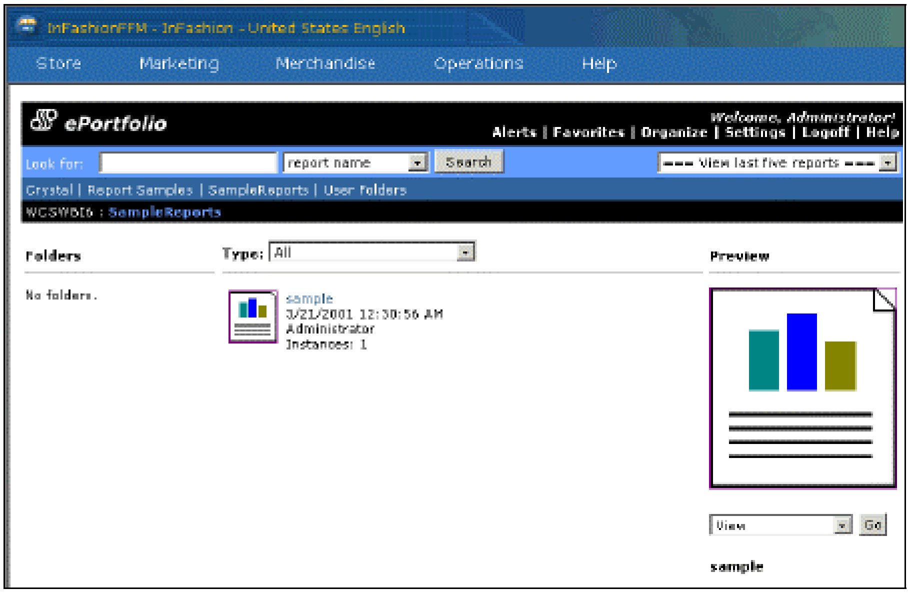

Figure 80: Selecting view to see the report

10. Before you can view the report enter the relevant details for database logon and Crystal Parameter fields.

Note:

Depending on your report schedule you may not be asked for the User ID and Password.

a. Enter **User ID** and **Password** for the database.

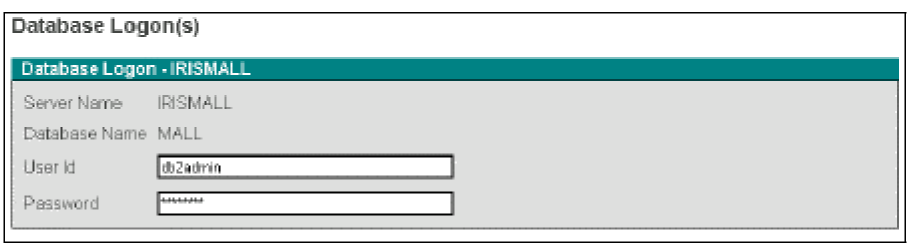

Figure 81: Entering database User ID and Password

b. Here you have an option to use the default value for the Store ID value, which is 10001 in this case. To do this select the existing Store ID Value and click **Select**. To use a new Store ID Value, enter it in the text field corresponding to the Select button and click **Select** as shown in Figure 82.

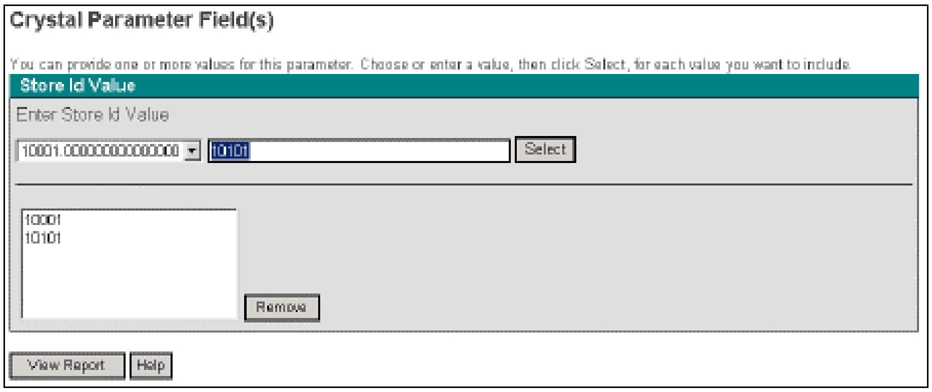

Figure 82: Selecting the Store ID Value parameter

11. To view your report click on **View Report.** The report displays as shown in Figure 83.

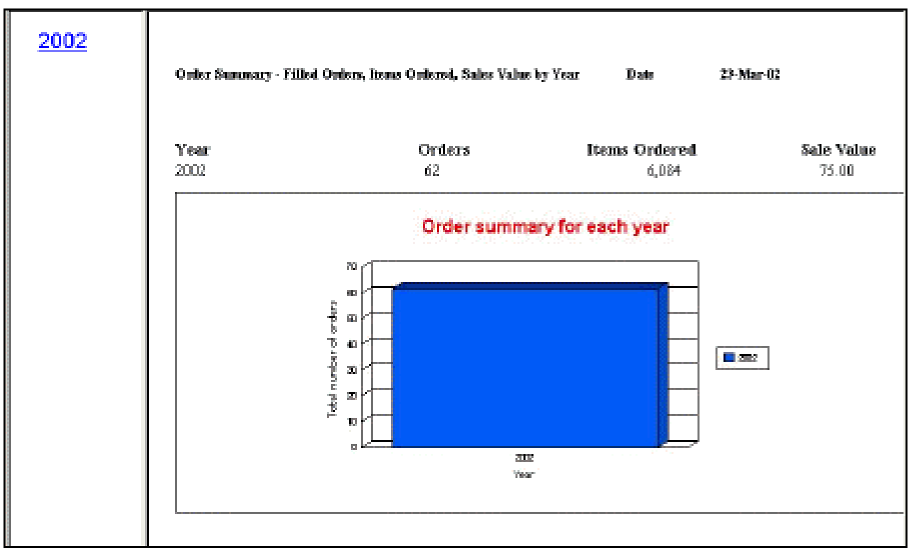

Figure 83: Viewing the reports

Chapter 10. Scheduling reports

Depending on your business requirements you can schedule your report.

Note:

If you are using Crystal Enterprise Professional Edition, then you can set control on who has access to the reports.

To schedule your report execute the following steps.

1. From the **Start** menu go to **Programs**, **IBM WebSphere Commerce** and select **WebSphere Commerce Accelerator**.

2. Enter your **User name** and **Password**. Click **Log On**.

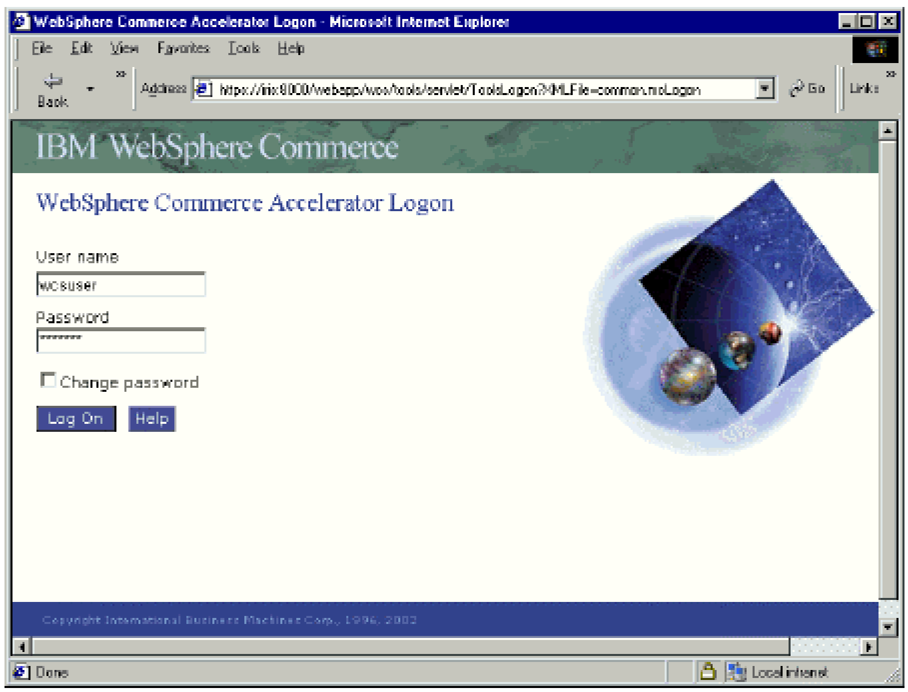

Figure 84: WebSphere Commerce Accelerator Logon screen

3. Select the **Name** of your store as shown in Figure 85. Select **Language** from the drop down menu. Select the **Fulfillment Center** and click **OK**.

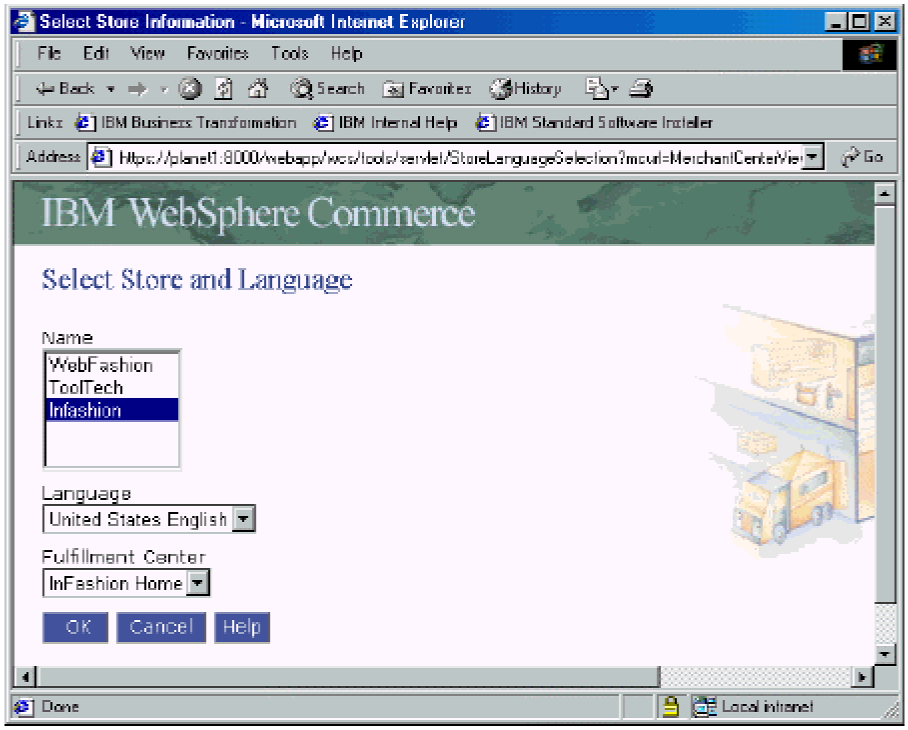

Figure 85: Select store and language screen

4. From the **Store** menu select **Online Reports**.

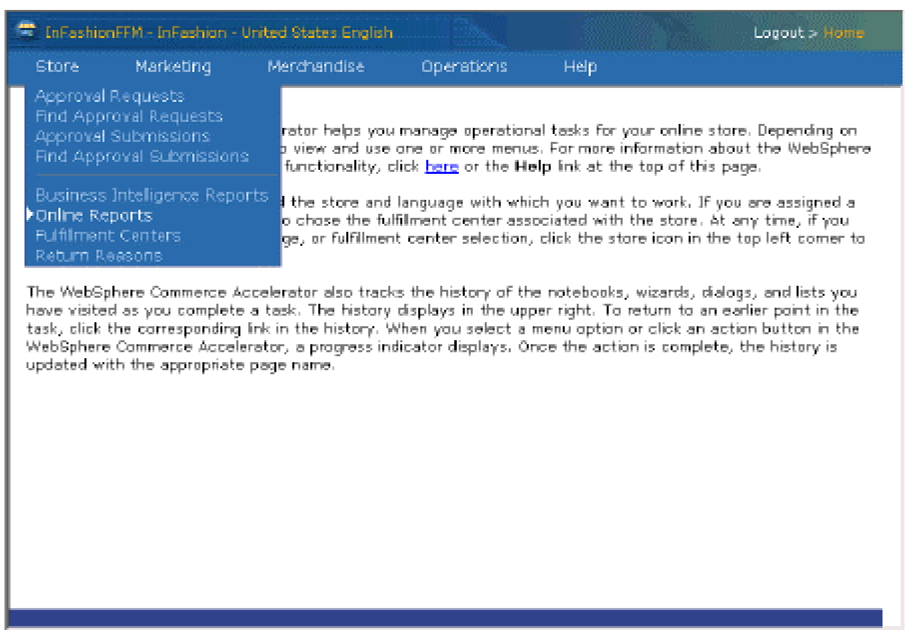

Figure 86: Selecting Online Reports

5. Click **Yes** if the Security Information dialog pops up.

6. If the folder you created when publishing the reports is not listed in the folders list, then **Look for** the folder. Select **folder title** and click on **Search.**

Figure 87: Looking for the reports

7. Click **OrderSummary** from the Folders list. This is the folder where you have published your report.

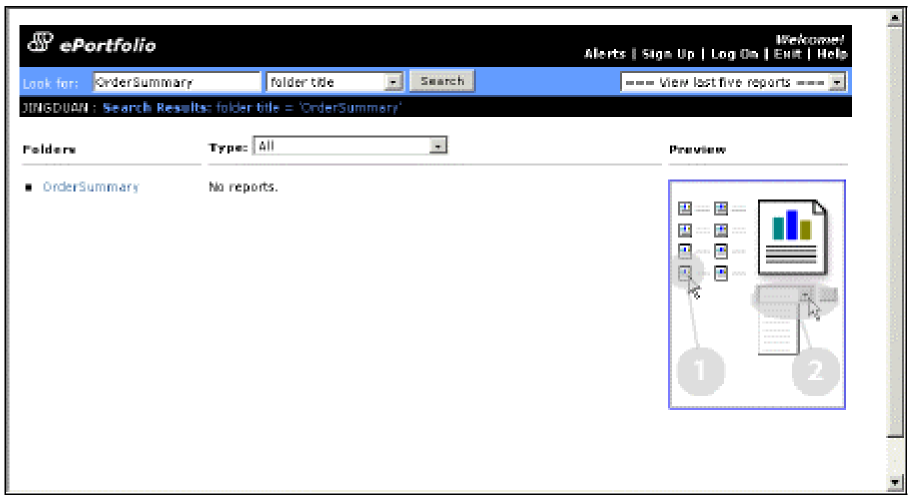

Figure 88: Selecting the OrderSummary folder

8. Click on the report icon as shown in Figure 89.

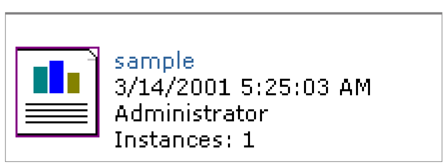

Figure 89: Report icon

9. From the drop down list on the right select **Schedule** and click **Go**.

10. From the Schedule window select Run Time from the **Customize your schedule options** drop down list.

    a. From the **Run report** drop down list select Monthly. Depending on your requirements you can select Daily, Weekly or other options.

    b. Specify the **Start Time** in hours, minutes and seconds.

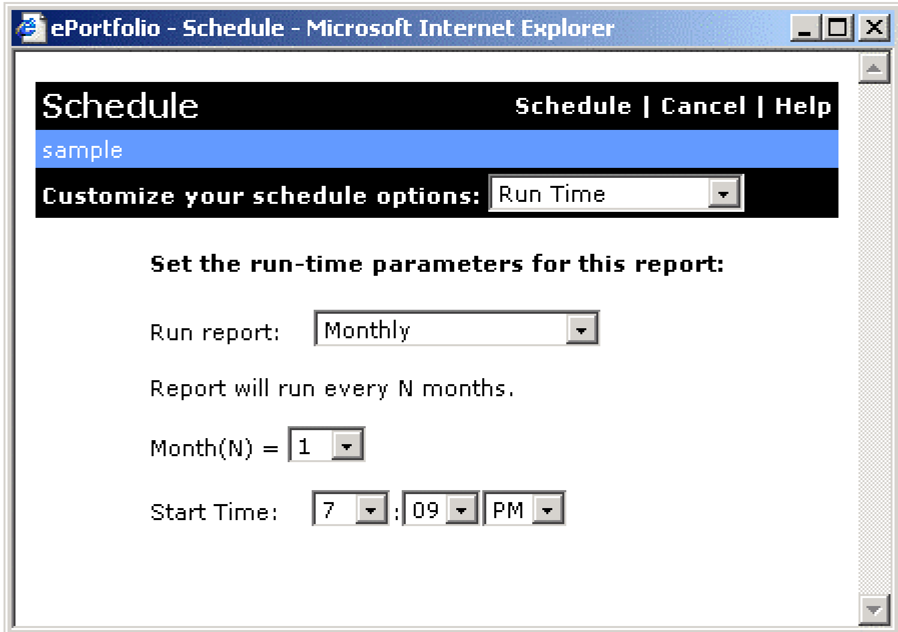

Figure 90: Setting the run time parameters

11. To change the database logon information select Database Logon from the **Customize your schedule options** drop down list.
    a. Enter the **Database**, **User** and **Password**.
    b. Click **Update.**

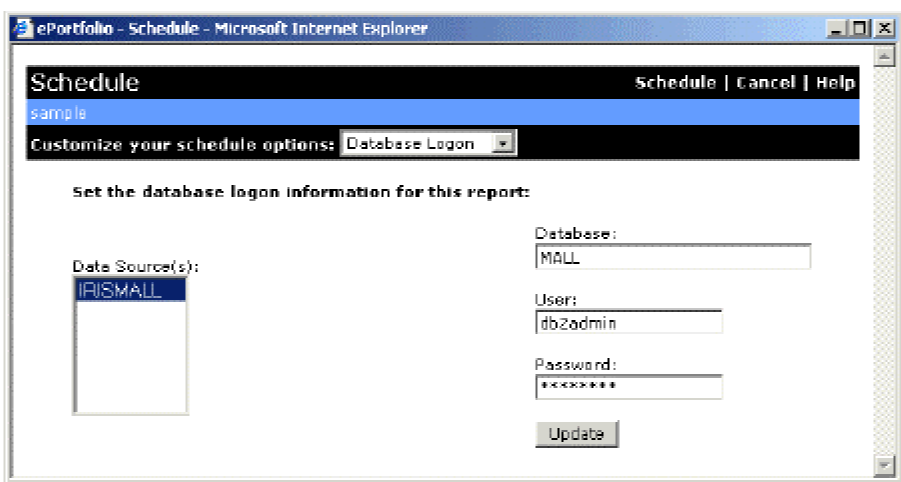

Figure 91: Setting the database logon information

12. To change the parameters select Parameters from the **Customize your schedule options** drop down list. Here, you can change the default Store ID Value or enter a new Store ID Value. The Store ID Value corresponding to **Current value** will be used in the report. If there are no Store ID Values present in the **Current values** list then the value specified when creating the report will be used.

    a. To add an existing value select it from the drop down list and click **Add**. It displays in the Current values list.

    b. To add a new value, enter it in the text filed corresponding to the Add button and click **Add**. It displays in the **Current values** list.

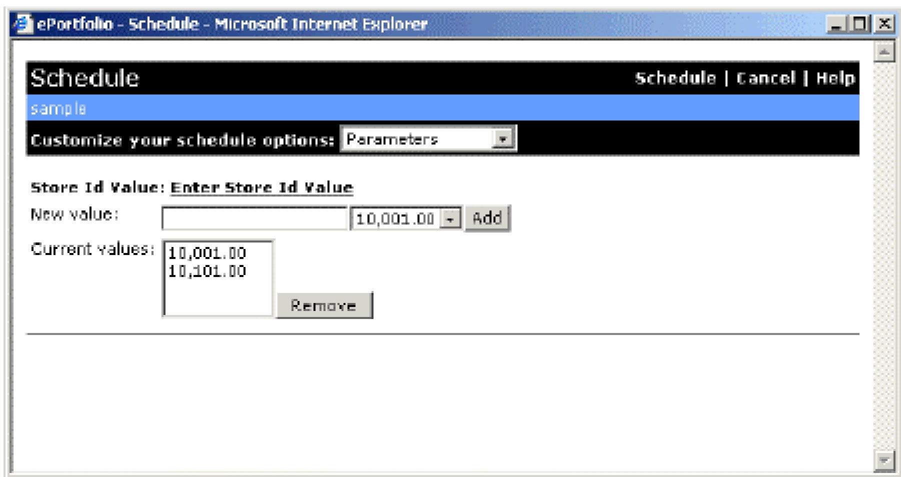

Figure 92: Setting the parameters

13. If you want to change the selection formula select Selection Formula from the **Customize your schedule options** drop down list. This displays the limits you set when creating the report. To modify the limit, make the changes and click **Update**. In this case, you don't need to change the formula.

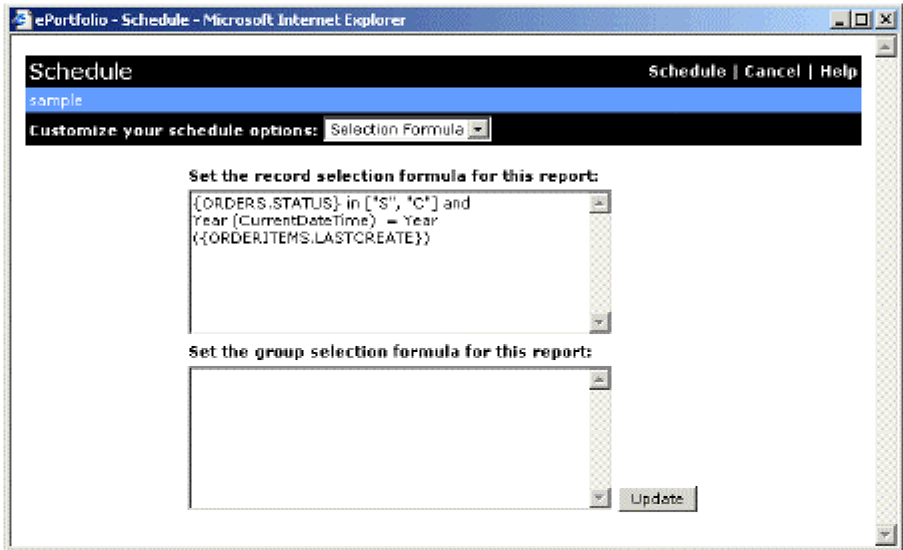

Figure 93: Modifying the limits

14. Click **Schedule** in the right top corner of the screen to save the changes that you have made.

Figure 94: Saving the changes made to the schedule options

Chapter 11. Sample reports

The integration kit provides a set of ready-to-use sample reports that are compatible with the WebSphere Commerce schema.

The following table lists the report categories supported by WebSphere Commerce Version 5.4 Business and Professional Editions.

Report category	WebSphere Commerce Business Edition	WebSphere Commerce Professional Edition
Product	✓	✓
OrderSummary	✓	✓
Demographic Sales Analysis	✓	✓
Time Period Sales Analysis	✓	✓
Sales by Account	✓	**x**
Sales by Contract	✓	**x**
Geographic Sales Analysis	✓	✓
Campaign	✓	✓
Initiative	✓	✓
E-Marketing Spot	✓	✓
Campaign/ Initiative/ E-Marketing Spot Combination	✓	✓

Table 1: Report categories supported by WebSphere Commerce Business or Professional Editions

To view these sample reports execute the following steps:

1. Select the report you want to view. Refer to Appendix C Table of sample reports.

2. Publish the report selected in step 1 using the Crystal Publishing Wizard. For details refer to Chapter 7. Publishing reports

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Note:

You can publish the report to the directory you have created when you organize your reports in Chapter 6. Organizing reports.

3. Integrate Crystal Enterprise report with WebSphere Commerce by making the necessary changes in the XML files and property files. For details, refer to Chapter 8. Integrating Crystal Enterprise with WebSphere Commerce

4. You can now view the sample reports from WebSphere Commerce Accelerator. Logon as administrator and select **Online Reports** from the **Store** menu. Enter the **User ID** and **Password**. The ePortfolio logon screen displays. For more information refer to Chapter 9. Viewing reports.

Customizing sample reports

Open the report that you want to customize in Crystal Reports. Modify the report and save your changes. To view the changes publish your report in Crystal Publishing Wizard. For more information refer to Chapter 4. Creating reports and Chapter 7. Publishing reports.

Appendix A. Creating an ODBC connection for DB2

Before creating a report you must create an ODBC (Open Database Connectivity) connection. This is essential to connect to a remote database.

Note:

- Mall is the default database name for WebSphere Commerce.
- IRISMALL (as seen in the screenshots) is the database alias used as an example.

NT

1. From the **Start** menu select **Settings** and then **Control panel**.

   2000

   From the **Start** menu select **Settings, Control Panel** and then **Administrative Tools**.

2. Select the ODBC data source icon. The ODBC Data Source Administrator window displays.

3. Move to the **System DSN** tab. In the System DSN dialog click **Add** as shown in Figure 95.

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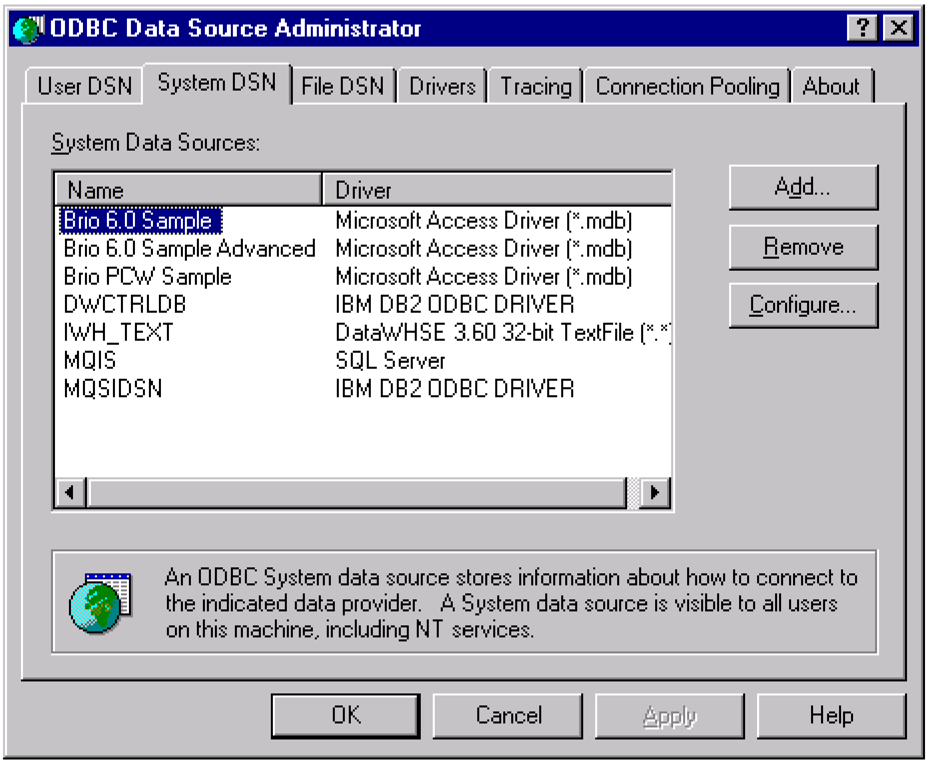

Figure 95: ODBC data source administrator

4. From the Create New Data Source window as shown in Figure 96 select the **IBM DB2 ODBC DRIVER** and click **Finish**.

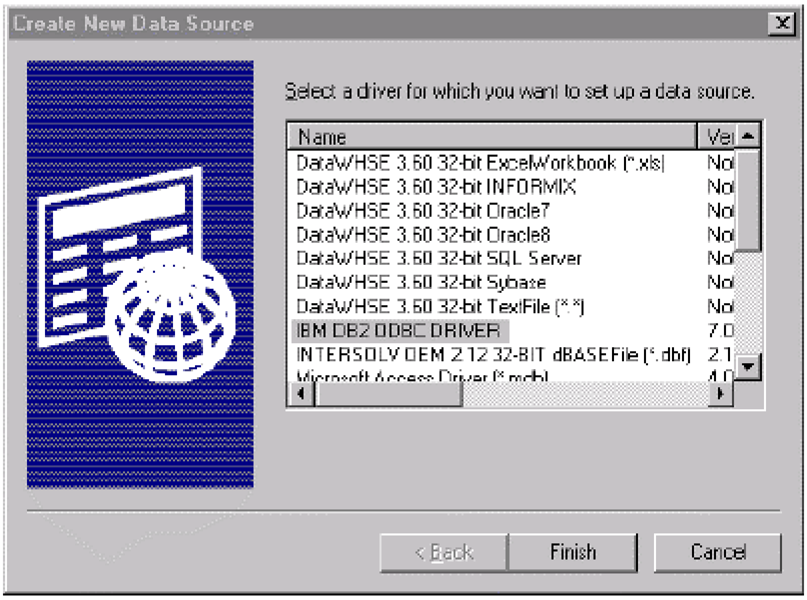

Figure 96: Selecting IBM DB2 ODBC DRIVER

5. Enter the ODBC database alias in **Data source name**. Select the **Database alias** from the drop down menu and click **OK**. If the database alias is not in the menu then click **Add**

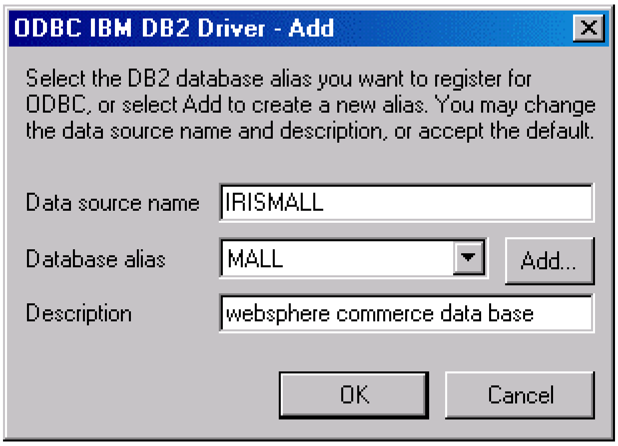

Figure 97: Select or add database alias

6. From the Add Database Wizard select **Search the network** option and click **Next.**

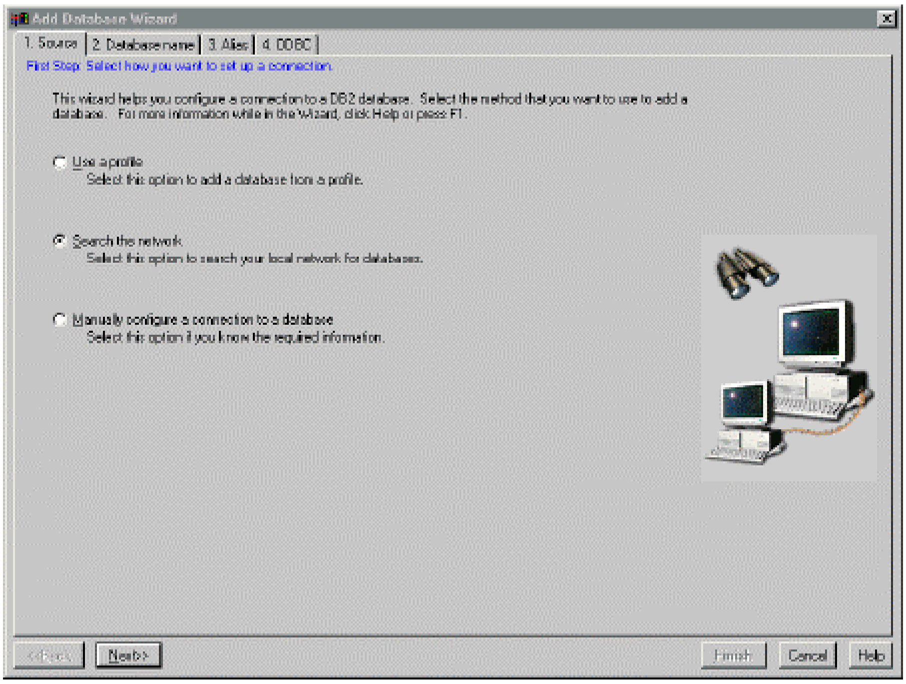

Figure 98: Searching the network

Note:

You can also select the **Manually configure a connection a connection to a DB2 database** option.

7. In the new window, click **Known Systems** and then click **Add Systems**.

8. From the Add System dialog select the **TCP/IP** protocol. Now enter the **Host Name** or IP address of the system you want to connect to. Click **OK**. You will have to wait for a few minutes before the system is added to your list of Known Systems.

9. The system you added in step 8 displays under the **Known Systems** icon as seen in Figure 99. From the Known Systems tree select **DB2** and select the local database **MALL**. Click **Next**.

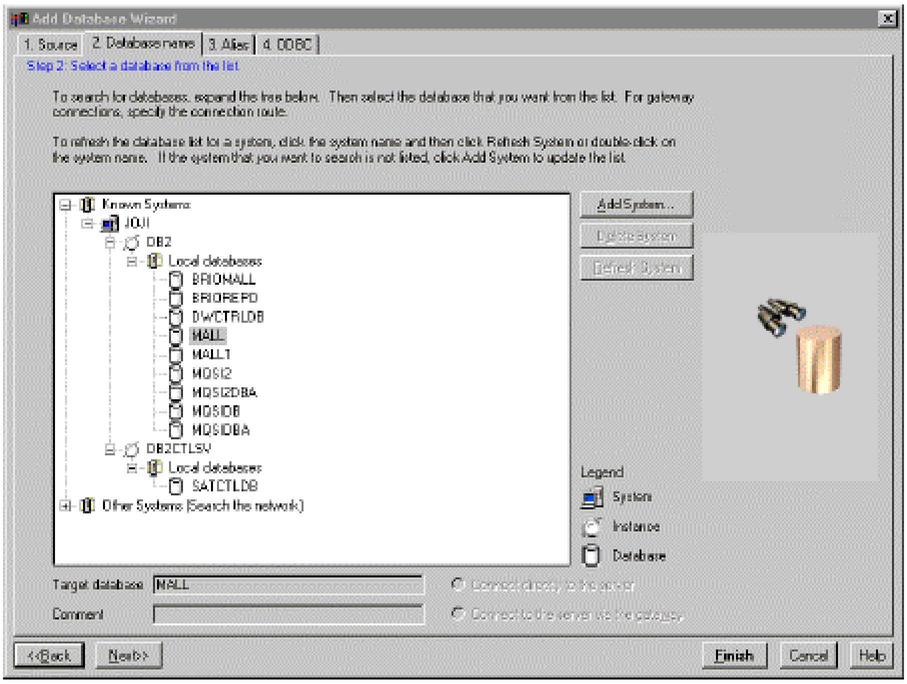

Figure 99: Selecting the local database

Note:

If your DB2 server is present under **Known Systems**, select your database from there. Else it will be listed under **Other Systems** in the network.

10. Enter the **Database alias**. It must not exceed 8 characters. Enter any comments you wish to about the database. Click **Finish**.

11. If the database is added successfully, a message confirming the same will display. Click **Close**. You will return to the ODBC Data Source Administrator dialog.

12. From the ODBC Data Source Administrator dialog, select the alias of the data source created and click **Configure**.

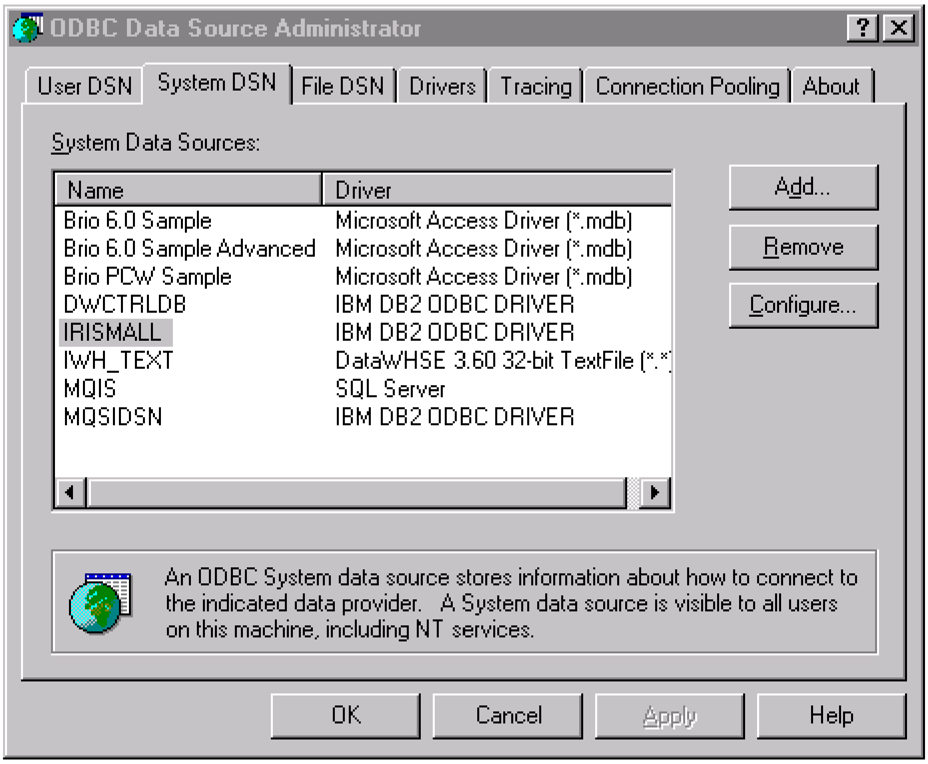

Figure 100: Configuring the database alias

13. You will be asked if you want to connect to the data source. Click **Yes.**

14. In the Connect To DB2 Database dialog enter **User ID** and **Password**. Ensure that the **Connection Mode** is on **Share**. Click **OK.**

15. If the connection is successful a confirmation message pops up. Click **OK**.

16. The CLI/ODBC Settings window displays. Click **OK**. This completes the ODBC connection for DB2.

Similarly, if you want to create an ODBC connection for any other database, follow the steps given above. When you reach step 9, select the database you want to connect to as the known system and continue.

Appendix B Using the Oracle database

This section details the steps required when using the global Oracle database with the sample reports provided in the integration kit.

Oracle client configuration

Before you execute the following steps for the Oracle client configuration, ensure that you have installed Oracle client version 8.1.7

1. From the **Start** menu go to **Programs**, **Oracle** – **OracleHome81**, **Network Administration** and select **Net8 Configuration Assistant**.

2. Select **Local Net Service Name configuration**. Click **Next**.

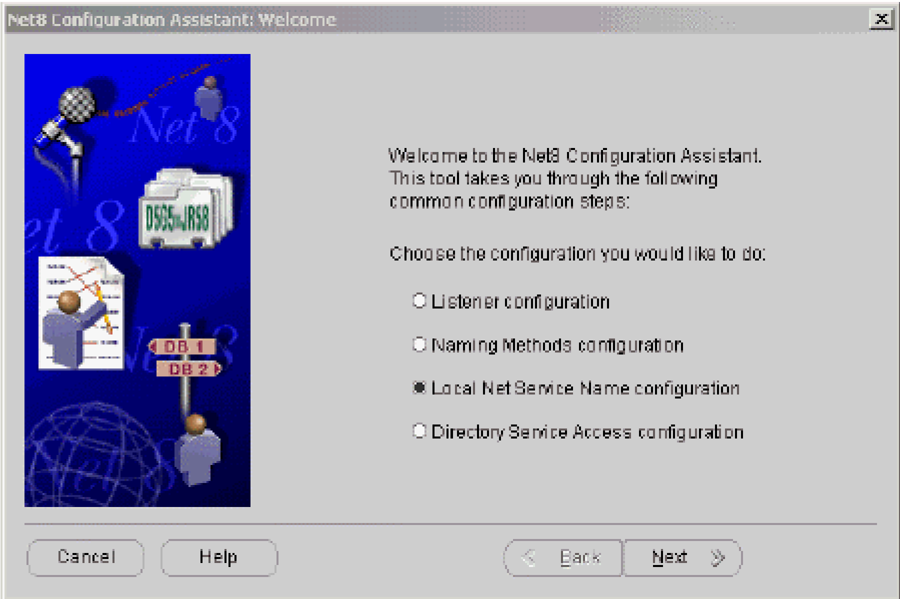

Figure 101: Net8 Configuration Assistant welcome

3. Select **Add** as shown in Figure 102. Click **Next**.

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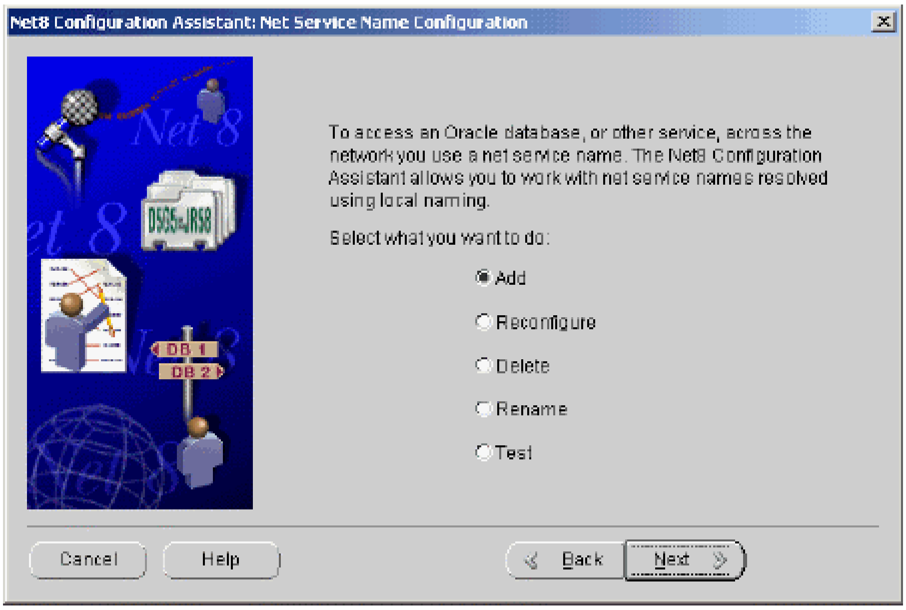

Figure 102: Net Service Name configuration

4. Select **Oracle8i database or service**. Click **Next**.

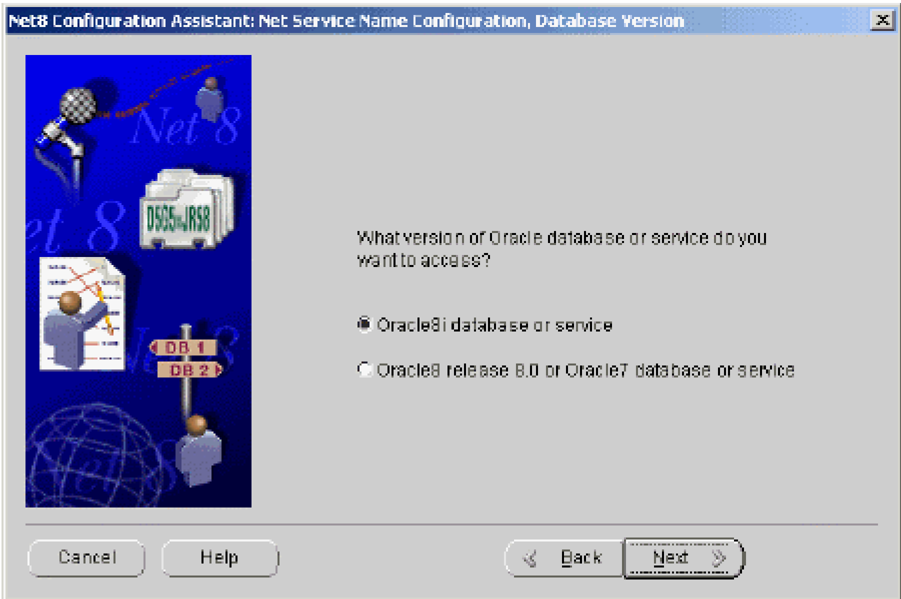

Figure 103: Net Service Name Configuration, Database version

5. Enter the Service Name, which is the global Oracle database name. It does not have to include your IP address. Click **Next** as shown in Figure 104.

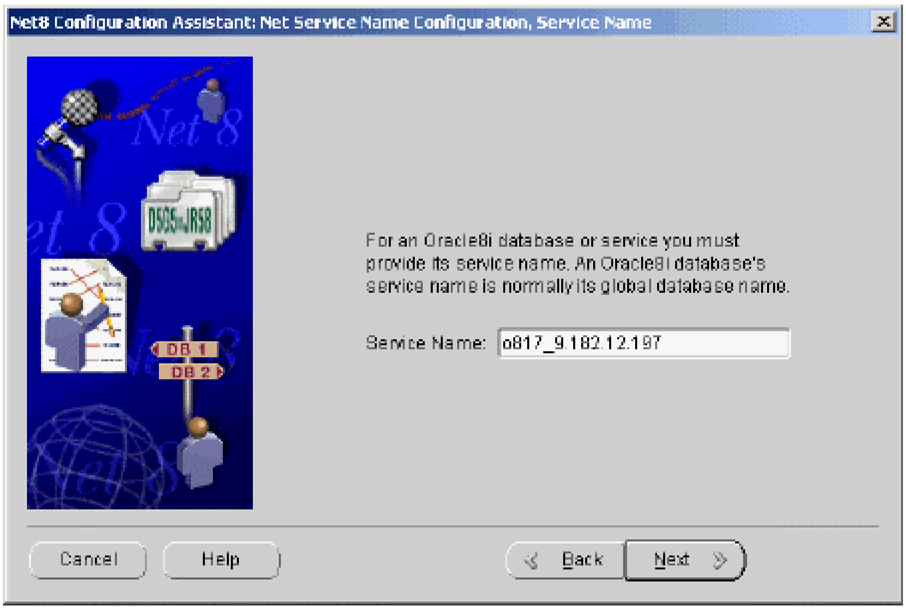

Figure 104: Net Service Name Configuration, Service name

6. Select **TCP/IP** from the drop down list. Click **Next**.

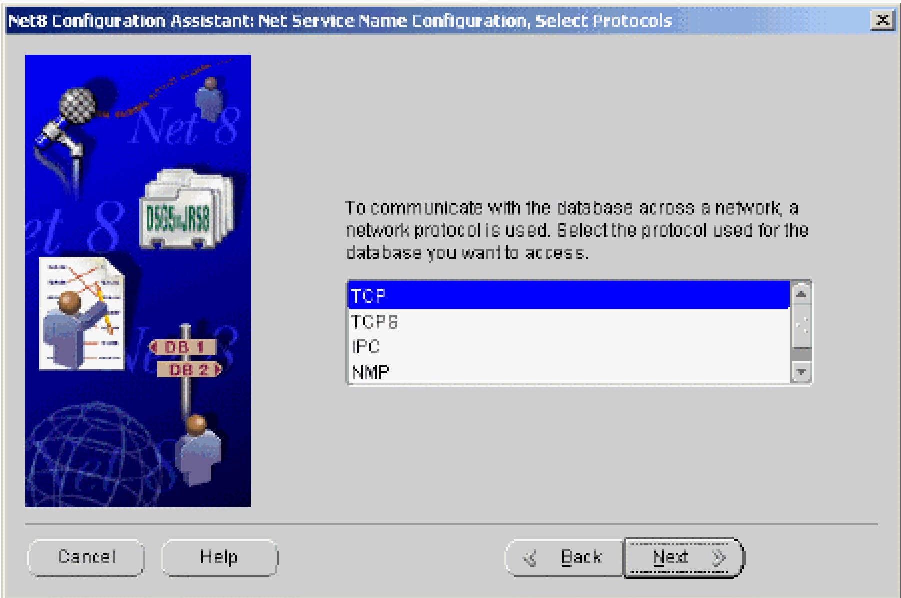

Figure 105: Net Service Name Configuration, Select protocols

7. Specify the **Host Name** or the IP address of the machine where the Oracle server is installed. Select **Use the standard port number of 1521** as shown in Figure 106.

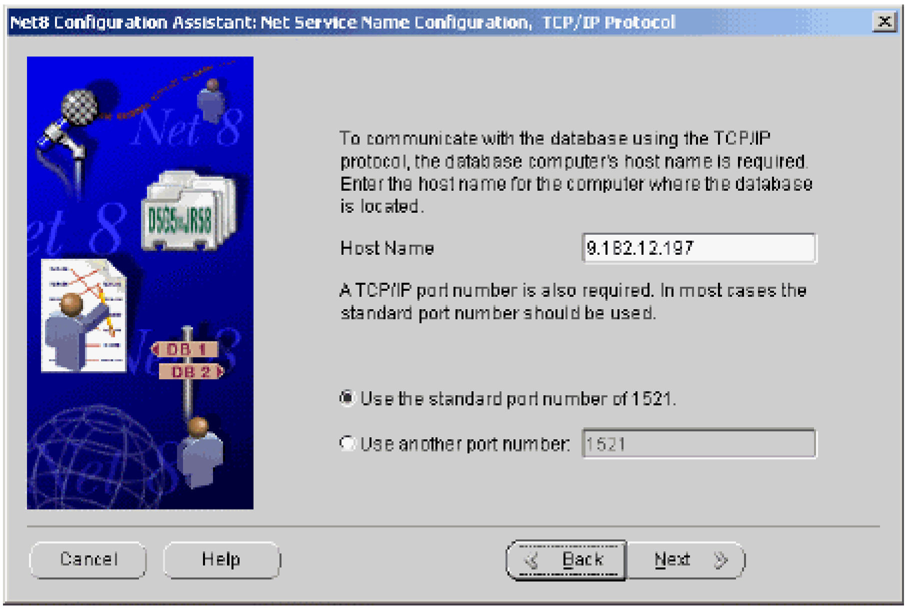

Figure 106: Net Service Name Configuration, TCP/IP protocol

8. Select **Yes, perform a test** Click **Next**.

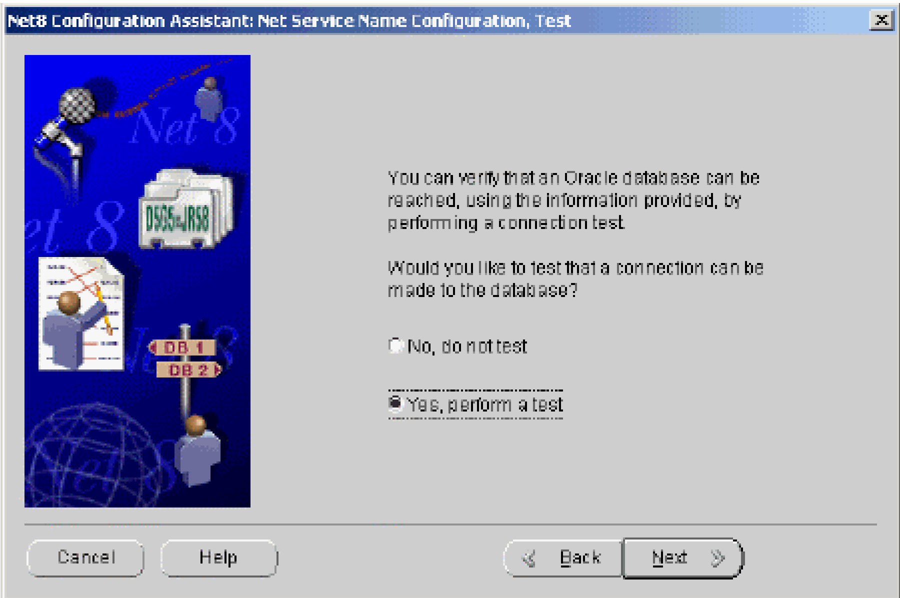

Figure 107: Net Service Name Configuration, Test

9. Click **Change Login** as shown in Figure 108.

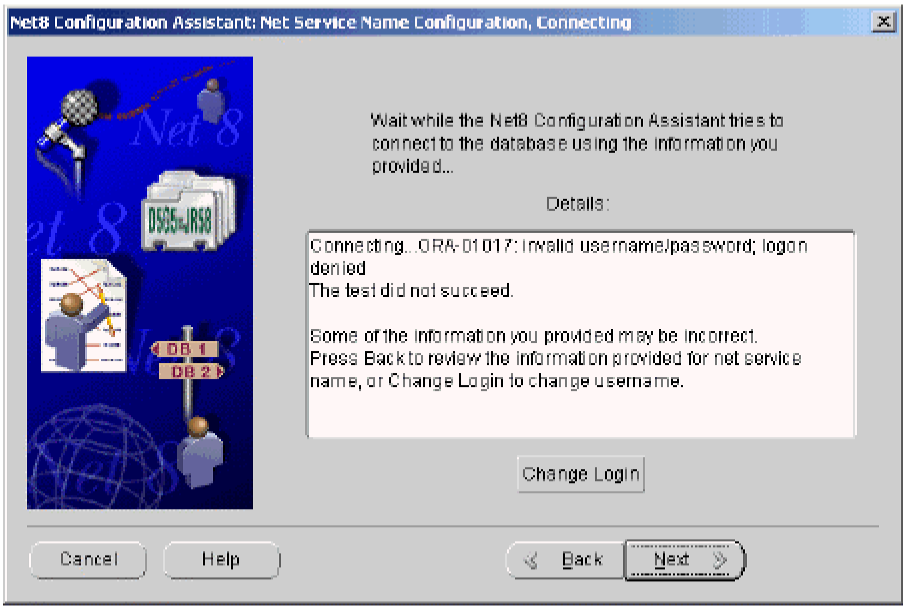

Figure 108: Net Service Name Configuration, welcome screen

10. The default Username and Password display. Change the **Username** and **Password** that you used to connect to the global Oracle database. Click **OK.** Refer to Figure 109.

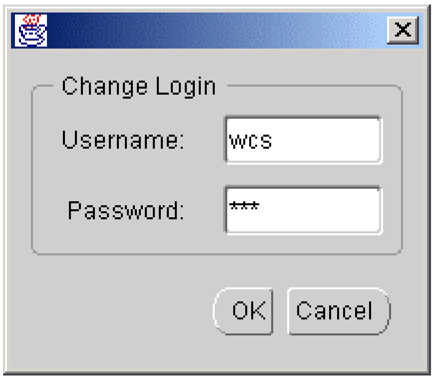

Figure 109: Change Login

11. If the connection is successful a message pops up confirming the same. Click **Next**.

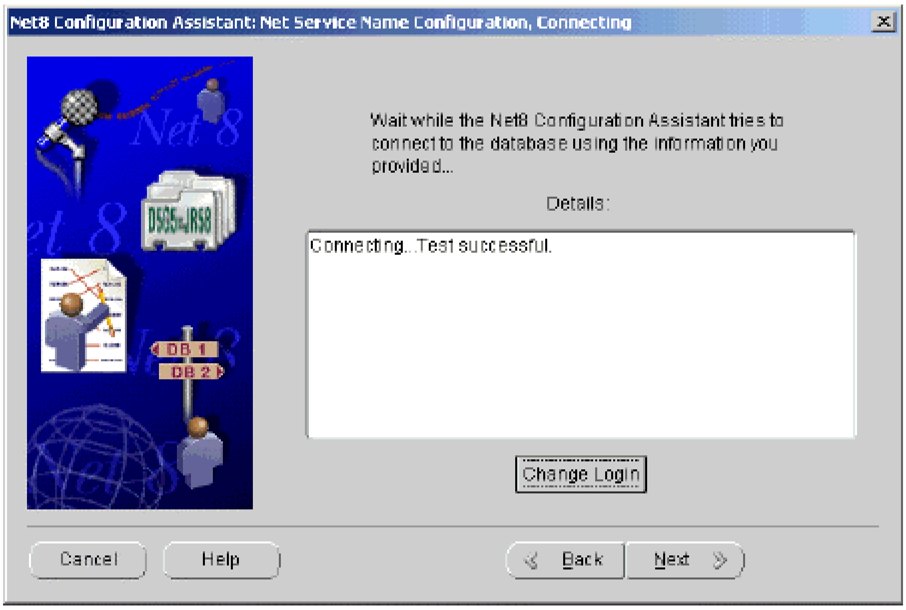

Figure 110: Net Service Name Configuration, Connecting

12. Enter the **Net Service Name** and click **Next.**

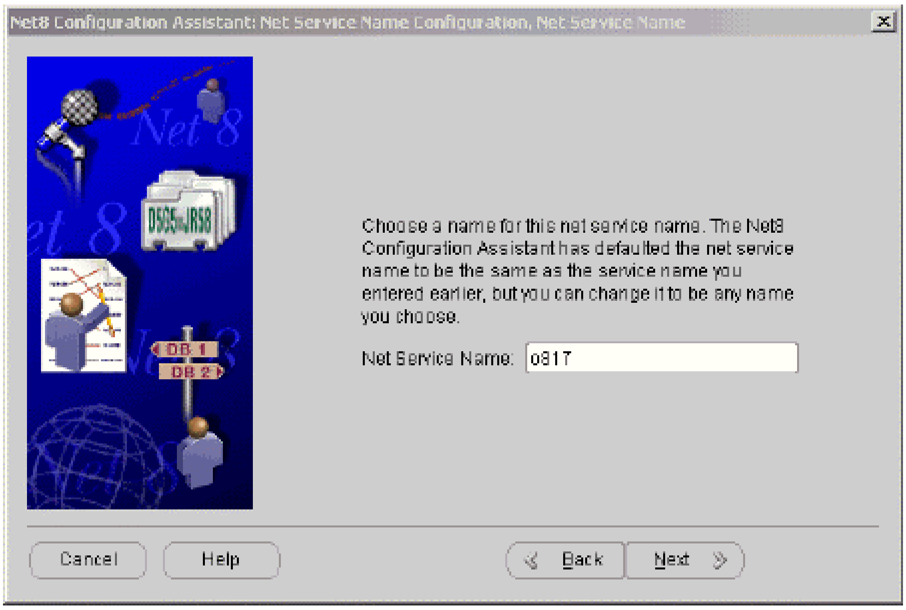

Figure 111: Entering the Net service name

13. Click **Next** as shown in Figure 112.

Figure 112: Net Service Name Configuration, welcome screen

14. Click **Finish** to complete the connection as shown in Figure 113.

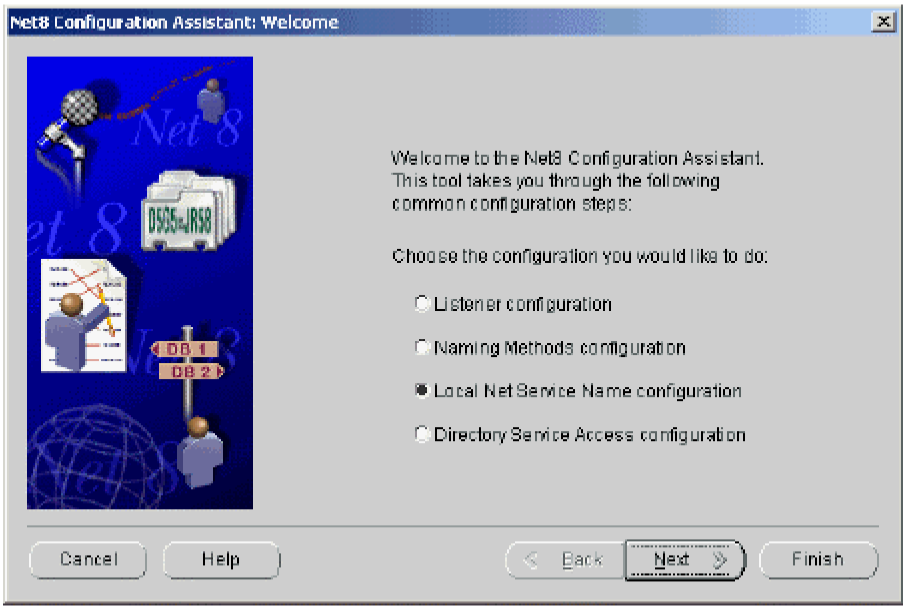

Figure 113: Clicking finish to complete the connection

Creating an ODBC connection for Oracle database

Before creating a report you must create an ODBC (Open Database Connectivity) connection. This is essential to connect to a remote database.

Note:

- o817 is the default database name for Oracle.
- ORACLEMALL (as seen in the screenshots) is the database alias used as an example.

1. NT From the **Start** menu select **Settings** and then **Control panel**.

   2000 From the **Start** menu select **Settings, Control Panel** and then **Administrative Tools**.

2. Select the ODBC data source icon. The ODBC Data Source Administrator window displays.

3. Move to the **System DSN** tab. In the System DSN dialog click **Add** as shown in Figure 114.

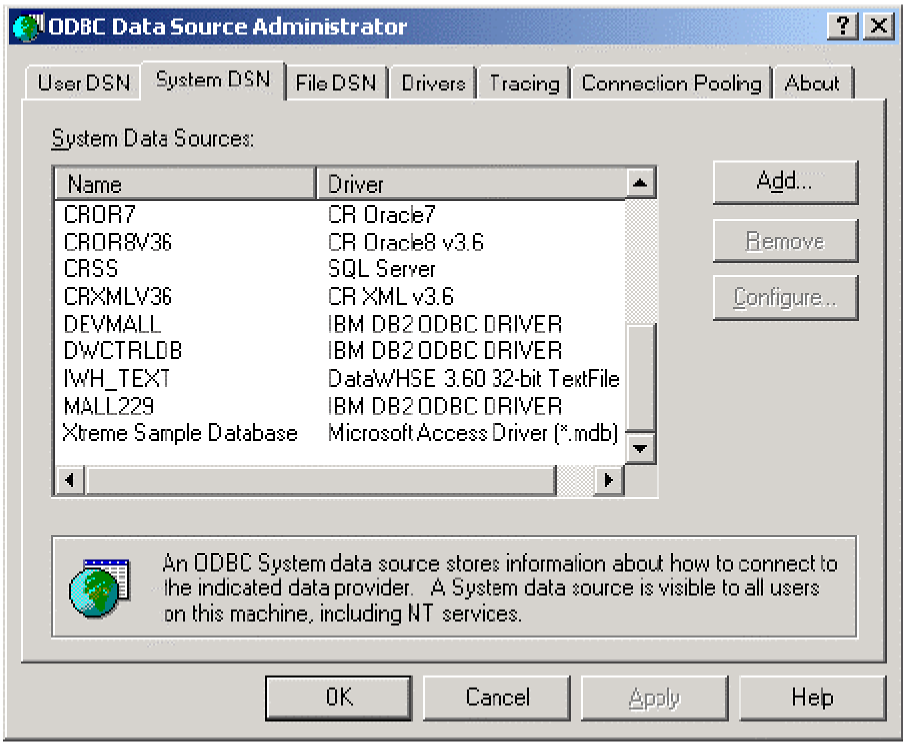

Figure 114: ODBC Data Source Administrator

4. From the Create New Data Source window as shown in Figure 115. Select the **Oracle ODBC DRIVER** and click **Finish**.

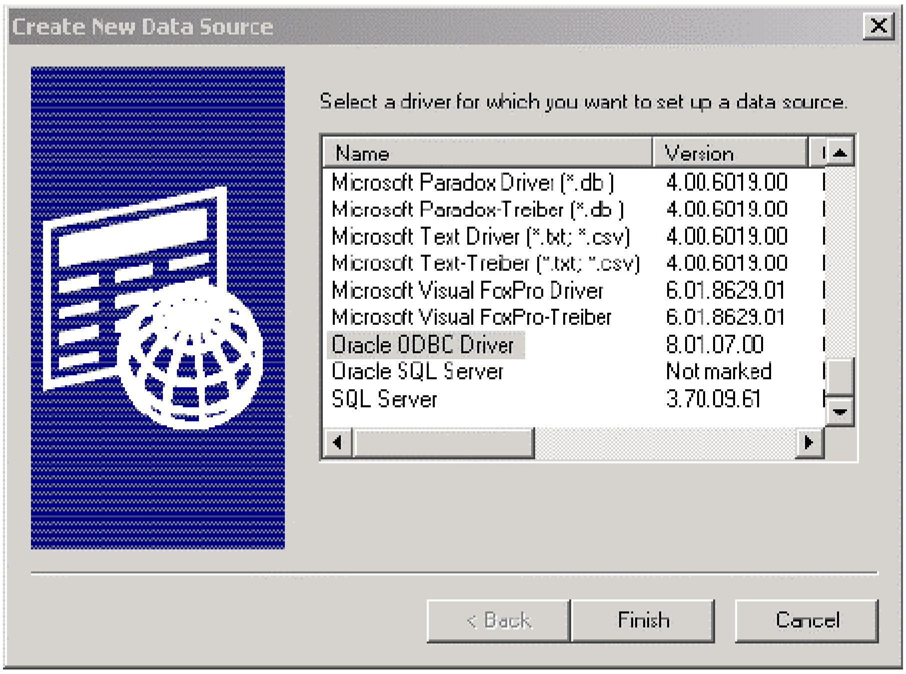

Figure 115: Creating a new data source

5. Enter the ODBC database alias in **Data Source Name**. Enter the **Desciption** of the database. Enter the **Service Name**, which is the global Oracle database name. Enter the **UserID,** which is WCS in this case. Click **OK**.

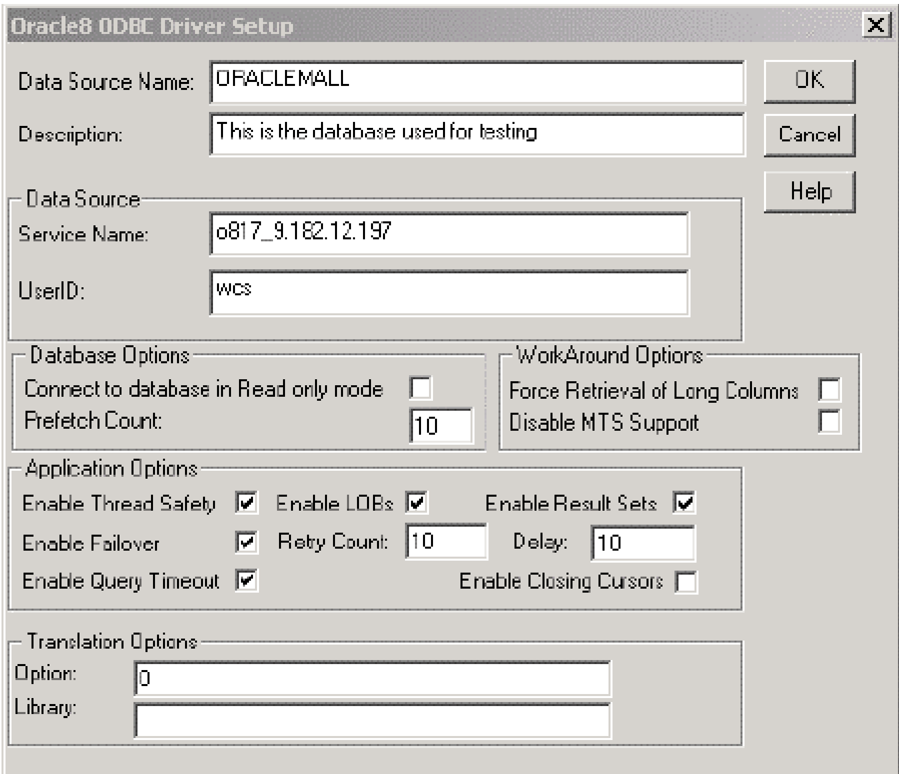

Figure 116: Select or add database alias

Note:

wcs is the user name to connect to the global Oracle database.

6. **ORACLEMALL** is added to the list of ODBC connections.

Note:

If you want to use the sample reports provided with the integration kit, then continue with modifying the Crystal report for Oracle. To create new reports refer to Chapter 4. Creating reports

Modifying the Crystal report for Oracle

To use the global Oracle database for the report that you have created in Chapter 4. Creating reports, execute the following steps.

1. Open the report sample.rpt in Crystal Reports.

2. From the **Database** menu item select **Set Location**. The Set Location dialog displays as shown in Figure 117.

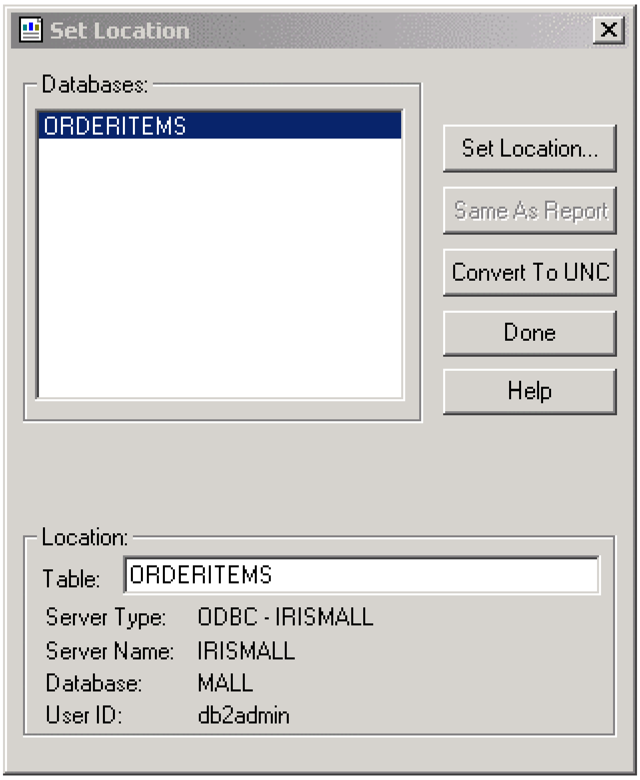

Figure 117: Set Location dialog

a. From the Set Location dialog as shown in Figure 117. Click **Set Location.**

b. From the Data Explorer expand ODBC and select the datasource name **ORACLEMALL** as shown in Figure 118. Double click **ORACLEMALL.**

Note:

If you do not see ORACLEMALL in the ODBC list, then close Crystal Reports and reopen it.

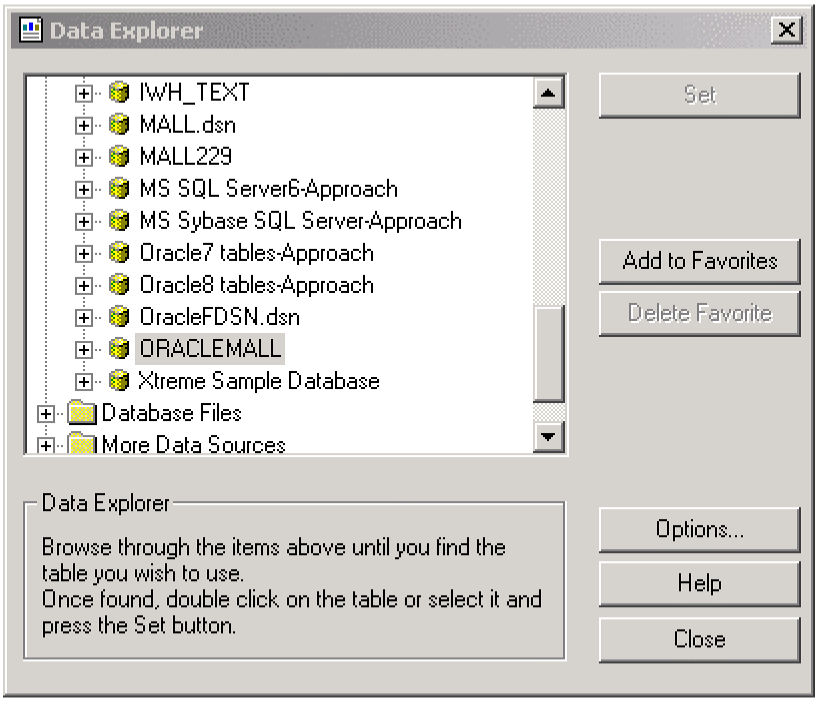

Figure 118: Data Explorer dialog

c. Enter the **User Name** and **Password** to connect to the global Oracle database. Click **OK**. In this case, we have used WCS.

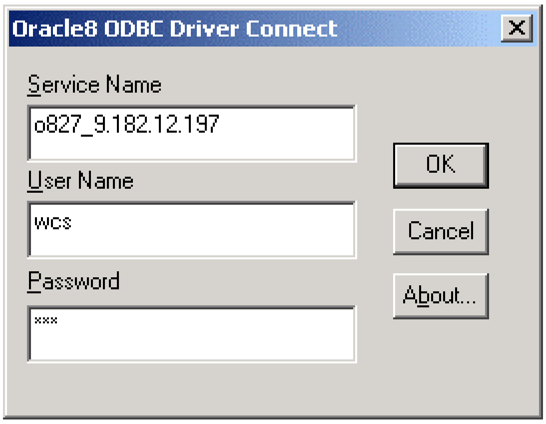

Figure 119: entering username and password

3. From the list of tables present in the global Oracle database, select **ORDERITEMS** as shown in Figure 120 and double click it.

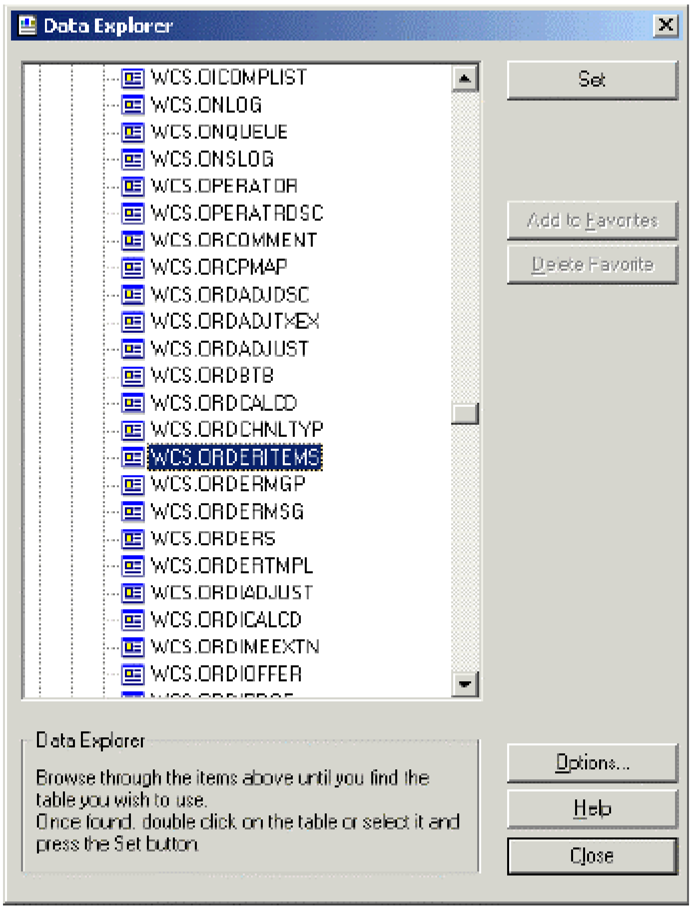

Figure 120: Selecting tables

a. In the Location frame, from **Table** remove the username **WCS** that appears before the table name **ORDERITEMS** as shown in Figure 121. This allows you to run the report with any User Name and Password that you have used to connect to the global Oracle database. Click **Done**.

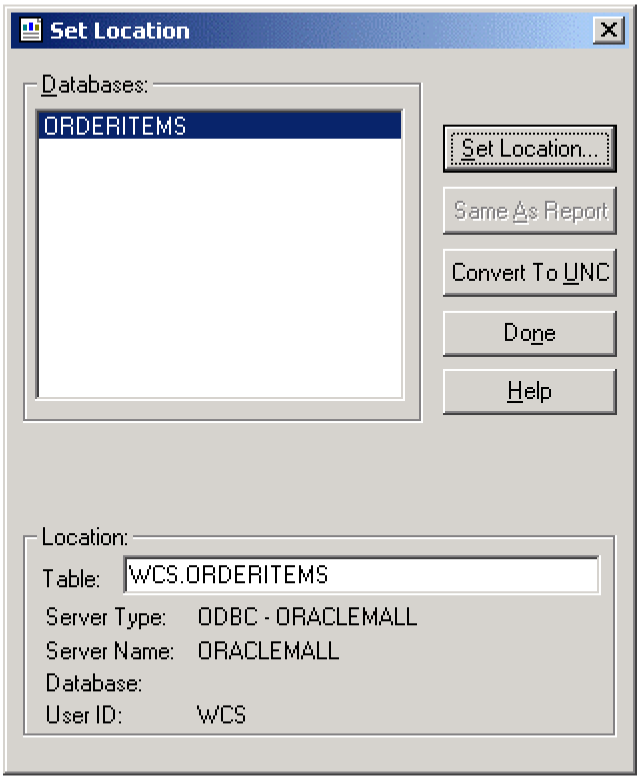

Figure 121: Set Location dialog

4. Click **OK** as shown in Figure 122.

Figure 122: Changing the ORDERITEMS file

5. Click on **Preview** to run the report using the global Oracle database.

Appendix C Table of sample reports

The following tables lists the details of the sample reports provided in the integration kit. When organizing your reports, each category can be a folder, under which you can create subfolders for the corresponding sub categories. You can publish your reports in the respective subcategories. Refer to Chapter 6. Organizing reports.

Category: Product			
Sub category	**Sub sub category**	**Report details**	**Report name**
Sales Value		Yesterday Top 10	PR_SV_YD_T10_TAB
		Yesterday Bottom 10	PR_SV_YD_B10_TAB
		This weekTop 10	PR_SV_CW_T10_TAB
		This week Bottom 10	PR_SV_CW_B10_TAB
		This MonthTop 10	PR_SV_CM_T10_TAB
		This Month Bottom 10	PR_SV_CM_B10_TAB
		This QuarterTop 10	PR_SV_CQ_T10_TAB
		This Quarter Bottom 10	PR_SV_CQ_B10_TAB
		This Year Top 10	PR_SV_CY_T10_TAB
		This Year Bottom 10	PR_SV_CY_B10_TAB
Units Sold		Yesterday Top 10	PR_QU_YD_T10_TAB
		Yesterday Bottom 10	PR_QU_YD_B10_TAB
		This weekTop 10	PR_QU_CW_T10_TAB
		This week Bottom 10	PR_QU_CW_B10_TAB
		This MonthTop 10	PR_QU_CM_T10_TAB
		This Month Bottom 10	PR_QU_CM_B10_TAB
		This QuarterTop 10	PR_QU_CQ_T10_TAB
		This Quarter Bottom 10	PR_QU_CQ_B10_TAB
		This Year Top 10	PR_QU_CY_T10_TAB
		This Year Bottom 10	PR_QU_CY_B10_TAB
Sales Value and Units Sold		Yesterday All	PR_SU_YD_ALL_TAB
		This Week All	PR_SU_CW_ALL_TAB
		This Month All	PR_SU_CM_ALL_TAB
		This Quarter All	PR_SU_CQ_ALL_TAB
		This Year All	PR_SU_CY_ALL_TAB
Units Abandoned		Yesterday Top 10	PR_QA_YD_T10_TAB
		This weekTop 10	PR_QA_CW_T10_TAB
		This MonthTop 10	PR_QA_CM_T10_TAB
		This QuarterTop 10	PR_QA_CQ_T10_TAB
		This Year Top 10	PR_QA_CY_T10_TAB
Category: OrderSummary			
Sub category	**Sub sub category**	**Report details**	**Report name**
		Daily	OS_OS_DA_ALL_TAB
		Weekly	OS_OS_WK_ALL_TAB
		Monthly	OS_OS_MO_ALL_TAB
		Quarterly	OS_OS_QT_ALL_TAB
		Yearly	OS_OS_YR_ALL_TAB
Category: Demographic Sales Analysis			
Sub category	**Sub sub category**	**Report details**	**Report name**

Age Range	SalesValue and Units Sold	Yesterday	D1_SU_YD_ALL_TAB
		This week	D1_SU_CW_ALL_TAB
		This Month	D1_SU_CM_ALL_TAB
		This Quarter	D1_SU_CQ_ALL_TAB
		This Year	D1_SU_CY_ALL_TAB
Income Range	SalesValue and Units Sold	Yesterday	D2_SU_YD_ALL_TAB
		This week	D2_SU_CW_ALL_TAB
		This Month	D2_SU_CM_ALL_TAB
		This Quarter	D2_SU_CQ_ALL_TAB
		This Year	D2_SU_CY_ALL_TAB
Gender	SalesValue and Units Sold	Yesterday	D3_SU_YD_ALL_TAB
		This week	D3_SU_CW_ALL_TAB
		This Month	D3_SU_CM_ALL_TAB
		This Quarter	D3_SU_CQ_ALL_TAB
		This Year	D3_SU_CY_ALL_TAB
Maritalstatus	SalesValue and Units Sold	Yesterday	D5_SU_YD_ALL_TAB
		This week	D5_SU_CW_ALL_TAB
		This Month	D5_SU_CM_ALL_TAB
		This Quarter	D5_SU_CQ_ALL_TAB
		This Year	D5_SU_CY_ALL_TAB
Category: Time Period Sales Analysis			
Sub category	**Sub sub category**	**Report details**	**Report name**
Hours Of the Day	Sales Value	Yesterday All	HR_SV_YD_ALL_TAB
	Units Sold	Yesterday All	HR_QU_YD_ALL_TAB
Days Of the Week	Sales Value	This week	DW_SV_CW_ALL_TAB
	Units Sold	This week	DW_QU_CW_ALL_TAB
Days of the Month	Sales Value	This Month	DM_SV_CM_ALL_TAB
	Units Sold	This Month	DM_QU_CM_ALL_TAB
Weeks of the Month	Sales Value	This Month	WM_SV_CM_ALL_TAB
	Units Sold	This Month	WM_QU_CM_ALL_TAB
Months of the Quarter	Sales Value	This Quarter	MQ_SV_CQ_ALL_TAB
	Units Sold	This Quarter	MQ_QU_CQ_ALL_TAB
Months of the Year	Sales Value	This Year	MY_SV_CY_ALL_TAB
	Units Sold	This Year	MY_QU_CY_ALL_TAB
Quarters of the Year	Sales Value	This Year	QY_SV_CY_ALL_TAB
	Units Sold	This Year	QY_QU_CY_ALL_TAB
Category: Sales by Account			
Sub category	**Sub sub category**	**Report details**	**Report name**

Sales Value and Units Sold		Yesterday	AC_SU_YD_ALL_TAB
		This week	AC_SU_CW_ALL_TAB
		This Month	AC_SU_CM_ALL_TAB
		This Quarter	AC_SU_CQ_ALL_TAB
		This Year	AC_SU_CY_ALL_TAB
Category: Sales by Contract			
Sub category	**Sub sub category**	**Report details**	**Report name**
Sales Value and Units Sold		Yesterday	CO_SU_YD_ALL_TAB
		This week	CO_SU_CW_ALL_TAB
		This Month	CO_SU_CM_ALL_TAB
		This Quarter	CO_SU_CQ_ALL_TAB
		This Year	CO_SU_CY_ALL_TAB
Category: Geographic Sales Analysis			
Sub category	**Sub sub category**	**Report details**	**Report name**
Country	Sales Value and Units Sold	Yesterday	G1_SU_YD_ALL_TAB
		This week	G1_SU_CW_ALL_TAB
		This Month	G1_SU_CM_ALL_TAB
		This Quarter	G1_SU_CQ_ALL_TAB
		This Year	G1_SU_CY_ALL_TAB
State	Sales Value and Units Sold	Yesterday	G2_SU_YD_ALL_TAB
		This week	G2_SU_CW_ALL_TAB
		This Month	G2_SU_CM_ALL_TAB
		This Quarter	G2_SU_CQ_ALL_TAB
		This Year	G2_SU_CY_ALL_TAB
City	Sales Value and Units Sold	Yesterday	G3_SU_YD_ALL_TAB
		This week	G3_SU_CW_ALL_TAB
		This Month	G3_SU_CM_ALL_TAB
		This Quarter	G3_SU_CQ_ALL_TAB
		This Year	G3_SU_CY_ALL_TAB
Postal Code	Sales Value and Units Sold	Yesterday	G4_SU_YD_ALL_TAB
		This week	G4_SU_CW_ALL_TAB
		This Month	G4_SU_CM_ALL_TAB
		This Quarter	G4_SU_CQ_ALL_TAB
		This Year	G4_SU_CY_ALL_TAB
Category: Campaign			
Sub category	**Sub sub category**	**Report details**	**Report name**
Impression Displayed		Yesterday All	CA_DI_YD_ALL_TAB
		Yesterday Top 1	CA_DI_YD_T10_TAB
		This week All	CA_DI_CW_ALL_TAB
		This week Top 10	CA_DI_CW_T10_TAB
		This Month All	CA_DI_CM_ALL_TAB
		This Month Top 10	CA_DI_CM_T10_TAB
		This Quarter All	CA_DI_CQ_ALL_TAB
		This Quarter Top 10	CA_DI_CQ_T10_TAB
		This Year All	CA_DI_CY_ALL_TAB
		This Year Top 10	CA_DI_CY_T10_TAB

Average Views and Clicks		Yesterday All	CA_CI_YD_ALL_TAB
		Yesterday Top 1	CA_CI_YD_T10_TAB
		This week All	CA_CI_CW_ALL_TAB
		This week Top 10	CA_CI_CW_T10_TAB
		This Month All	CA_CI_CM_ALL_TAB
		This Month Top 10	CA_CI_CM_T10_TAB
		This Quarter All	CA_CI_CQ_ALL_TAB
		This Quarter Top 10	CA_CI_CQ_T10_TAB
		This Year All	CA_CI_CY_ALL_TAB
		This Year Top 10	CA_CI_CY_T10_TAB
Category: Initiative			
Sub category	**Sub sub category**	**Report details**	**Report name**
Impression Displayed		Yesterday All	IN_DI_YD_ALL_TAB
		Yesterday Top 10	IN_DI_YD_T10_TAB
		This week All	IN_DI_CW_ALL_TAB
		This week Top 10	IN_DI_CW_T10_TAB
		This Month All	IN_DI_CM_ALL_TAB
		This Month Top 10	IN_DI_CM_T10_TAB
		This Quarter Al	IN_DI_CQ_ALL_TAB
		This Quarter Top 10	IN_DI_CQ_T10_TAB
		This Year All	IN_DI_CY_ALL_TAB
		This Year Top 10	IN_DI_CY_T10_TAB
Average Views and Clicks		Yesterday All	IN_CI_YD_ALL_TAB
		Yesterday Top 10	IN_CI_YD_T10_TAB
		This week All	IN_CI_CW_ALL_TAB
		This week Top 10	IN_CI_CW_T10_TAB
		This Month All	IN_CI_CM_ALL_TAB
		This Month Top 10	IN_CI_CM_T10_TAB
		This Quarter Al	IN_CI_CQ_ALL_TAB
		This Quarter Top 10	IN_CI_CQ_T10_TAB
		This Year All	IN_CI_CY_ALL_TAB
		This Year Top 10	IN_CI_CY_T10_TAB
Category: E-Marketing Spot			
Sub category	**Sub sub category**	**Report details**	**Report name**
Impression Displayed		Yesterday All	MP_DI_YD_ALL_TAB
		Yesterday Top 10	MP_DI_YD_T10_TAB
		This week All	MP_DI_CW_ALL_TAB
		This week Top 10	MP_DI_CW_T10_TAB
		This Month All	MP_DI_CM_ALL_TAB
		This Month Top 10	MP_DI_CM_T10_TAB
		This Quarter All	MP_DI_CQ_ALL_TAB
		This Quarter Top 10	MP_DI_CQ_T10_TAB
		This Year All	MP_DI_CY_ALL_TAB
		This Year Top 10	MP_DI_CY_T10_TAB
Average Views and Clicks		Yesterday All	MP_CI_YD_ALL_TAB
		Yesterday Top 10	MP_CI_YD_T10_TAB
		This week All	MP_CI_CW_ALL_TAB

		This week Top 10	MP_CI_CW_T10_TAB
		This Month All	MP_CI_CM_ALL_TAB
		This Month Top 10	MP_CI_CM_T10_TAB
		This Quarter All	MP_CI_CQ_ALL_TAB
		This Quarter Top 10	MP_CI_CQ_T10_TAB
		This Year All	MP_CI_CY_ALL_TAB
		This Year Top 10	MP_CI_CY_T10_TAB
Category: Campaign/Initiative/E-Marketing Spot Combination			
Sub category	**Sub sub category**	**Report details**	**Report name**
Impression Displayed		Yesterday Top 10	IM_DI_YD_T10_TAB
		This week Top 10	IM_DI_CW_T10_TAB
		This Month Top 10	IM_DI_CM_T10_TAB
		This Quarter Top 10	IM_DI_CQ_T10_TAB
		This Year Top 10	IM_DI_CY_T10_TAB
Average Views and Clicks		Yesterday Top 10	IM_CI_YD_T10_TAB
		This week Top 10	IM_CI_CW_T10_TAB
		This Month Top 10	IM_CI_CM_T10_TAB
		This Quarter Top 10	IM_CI_CQ_T10_TAB
		This Year Top 10	IM_CI_CY_T10_TAB

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