Appeon Demo Applications Tutorial

Appeon® 3.1 for PowerBuilder®

FOR WINDOWS

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Appeon Corporation, 1/F, Shell Industrial Building, 12 Lee Chung Street, Chai Wan District, Hong Kong.

Contents

1 About This Book

1.1 Audience

This book is written for developers using Appeon® 3.1 for PowerBuilder®.

1.2 How to use this book

This document guides the user through running the Appeon demos as Sybase® PowerBuilder® applications and moving them onto the Web. Altogether there are seven Chapters:

Chapter 1: About This Book

A general description of the contents of this book.

Chapter 2: Getting Started

An overview of the demo applications, including installation requirements.

Chapter 3: Running Sales Application Demo

Instructions for using the Sales Application, including application workflow notes and explanations of the various Windows in the application.

Chapter 4: Running Appeon Code Examples

Instructions for using the Appeon Code Examples, including an introduction to the UI layout and explanations of the various types of code examples.

Chapter 5: Running ACF Examples

Instructions for using the Appeon ACF Example, including application workflow notes and explanations of the various Windows in the application ACF Example.

Chapter 6: Deploying the PowerBuilder Demos to Web

Instructions for verifying the configuration in Appeon Developer, using the previews, supported features analysis, deployment wizard and launching AEM.

Chapter 7: Viewing Web Demo Applications

Important information regarding the converted Web application demos.

1.3 Related documents

Appeon provides the following user documents to assist you in understanding Appeon for PowerBuilder and its capabilities:

- *Appeon Demo Applications Tutorial:*

  Introduces Appeon's demo applications, including the Appeon Sales Application Demo, Appeon Code Examples, and the Appeon ACF Demo, which show Appeon's capability in converting PowerBuilder applications to the Web.

- *Appeon Developer User Guide (or Working with Appeon Developer Toolbar)*

  Provides instructions on how to use the Appeon Developer toolbar in Appeon 3.1.

Working with Appeon Developer Toolbar is an HTML version of the Appeon Developer User Guide.

- *Appeon Enterprise Manager User Guide:*

  Introduces the Appeon Enterprise Manager, a Web application that maintains Appeon Web applications and Appeon Server over the Internet, an intranet, or an extranet.

- *Appeon Supported Features Guide for Appeon Xcelerator (or Appeon Features Help for Appeon Xcelerator):*

  Provides a detailed list of what PowerBuilder features are supported and can be converted to the Web with Appeon 3.1, using the Appeon Xcelerator deployment option, and what features are unsupported.

  Appeon Features Help for Appeon Xcelerator is an HTML version of the Appeon Supported Features Guide for Appeon Xcelerator Deployment.

- *Appeon Supported Features Guide for Pure-JavaScript (or Appeon Features Help for Pure-JavaScript):*

  Provides a detailed list of what PowerBuilder features are supported and can be converted to the Web with Appeon 3.1, using the Pure-JavaScript deployment option, and what features are unsupported.

  Appeon Features Help for Pure-JavaScript is an HTML version of the *Appeon Supported Features Guide for Pure-JavaScript Deployment*.

- *Appeon Installation Guide:*

  Provides instructions on how to install *Appeon for PowerBuilder* successfully.

- *Appeon Migration Guide:*

  A process-oriented guide that illustrates the complete diagram of the Appeon Web migration procedure, and includes various topics related to steps in the procedure.

- *Appeon Migration Tutorial:*

  A tutorial that walks the user through the entire process of deploying a small PowerBuilder application to the Web.

- *Appeon Performance Tuning Guide:*

  Provides instructions on how to modify a PowerBuilder application to achieve better performance with its *corresponding Web application*.

- *Appeon Troubleshooting Guide:*

  Provides information about troubleshooting issues, covering topics such as product installation, Web deployment, AEM, Web application runtime, etc.

- *Introduction to Appeon:*

  Guides you through all the documents included in Appeon 3.1 for PowerBuilder.

- *Using the PowerBuilder Foundation Class Library with Appeon (or Appeon-compliant Framework Reference):*

  Provides a detailed list of what PowerBuilder PFC features are supported and can be converted to the Web with Appeon, and what features are not supported.

Appeon-compliant Framework Reference is an HTML version of the Using the PowerBuilder Foundation Class Library with Appeon.

- What's New in Appeon:

  Introduces new features and changes in Appeon 3.1 for PowerBuilder.

1.4 If you need help

Each Sybase installation that has purchased a support contract has one or more designated people who are authorized to contact Sybase Technical Support, or an Authorized Sybase Support Partner. If you have any questions about this product, or if you need assistance during the installation process, ask a designated person to contact Sybase Technical Support, or an Authorized Sybase Support Partner based on your support contract. You may access the Technical Support Web site at http://www.sybase.com/support.

2 Getting Started

2.1 Overview

Appeon 3.1 for PowerBuilder provides three PowerBuilder application demos that highlight various features of the product and demonstrate Appeon's ability to automatically transform PowerBuilder applications into Web applications.

The three demos included with Appeon 3.1 for PowerBuilder are:

- Appeon Sales Application Demo – demonstrates Appeon's ability to convert the complex UI and event-driven logic of an average PowerBuilder application. There are 35~40 windows in the Appeon Sales Application Demo.
- Appeon Code Examples – highlights many essential and robustly supported features used in most PowerBuilder applications. It is highly recommended that PowerBuilder developers study the Appeon Code Examples and Appeon Help in order to have a solid grasp of the features that Appeon supports, as well as the code for best implementing these supported PowerBuilder features.
- Appeon ACF Examples – is a PowerBuilder application created by Appeon Corporation that features a Multiple Document Interface (MDI) application that showcases dozens of code examples. It is designed to demonstrate Appeon 3.1's ability to successfully convert a PFC-based application to a Web application.

Each Appeon demo contains two sets of source code (one for the Pure-JavaScript deployment and one for the Appeon Xcelerator deployment) and two associated application profiles. Table 2-1 lists all available demo applications and where they are stored.

Table 2-1: Demo applications for Pure-JavaScript and Appeon Xcelerator deployments

Application Name	Deployment option	Folder
sales_application_demo_js	Pure-JavaScript	%APPEON_DEVELOPER%\Appeondemo\SalesApplicationDemoForJS
sales_application_demo_ax	Appeon Xcelerator	%APPEON_DEVELOPER%\Appeondemo\SalesApplicationDemoForAX
appeon_acf_demo_js	Pure-JavaScript	%APPEON_DEVELOPER%\Appeondemo\AppeonacfdemoForJS
appeon_acf_demo_ax	Appeon Xcelerator	%APPEON_DEVELOPER%\Appeondemo\AppeonacfdemoForAX
appeon_code_examples_js	Pure-JavaScript	%APPEON_DEVELOPER%\Appeondemo\AppeonCodeExamplesForJS
appeon_code_examples_ax	Appeon Xcelerator	%APPEON_DEVELOPER%\Appeondemo\AppeonCodeExamplesForAX
appeon_code_examples_server_js	Pure-JavaScript	%APPEON_DEVELOPER%\Appeondemo\AppeonCodeExamplesForJS
appeon_code_examples_server_ax	Appeon Xcelerator	%APPEON_DEVELOPER%\Appeondemo\AppeonCodeExamplesForAX

Notes:

1) %APPEON_DEVELOPER% is the Appeon Developer installation directory. For example, C:\Program Files\Appeon\Developer\appeondemo.

2) *appeon_code_examples_server_js* and *appeon_code_examples_server_ax* are Appeon Server/EAServer component applications that are deployed into the Appeon Server/EAServer. These two applications do not contain a script for the open event and thus cannot be run through the Run facility.

The Web application demos include Web enhanced features such as print view, image view saving to Metafile, Text, Excel or HTML table format, and zoom in/zoom out on Image DataWindows. Refer to Section 7.4: *Web Enhancements* for more details.

2.2 Demo installation

The PowerBuilder source code and Appeon-converted Web files of the three demos are provided in the Appeon installation package. The quickest and easiest way to get the demos up and running without having to perform any real configuration is by following these instructions:

- Install Sybase PowerBuilder, Sybase EAServer, and Sybase Adaptive Server® on a single machine. EAServer functions as both the Web server and the application server in the demo configuration.
- Install Appeon Server on the same machine and use the "Complete" installation option.
- Install Appeon Developer on the same machine and use the "Complete" installation option. Make sure you select the "Automatically configure Appeon Developer" option. Detailed installation instructions are provided in the Appeon Installation Guide.
- Install PDFPrinter to the same machine. If PDFPrinter is not installed, the PDF printing functionality in the Web application will not work.
- Detailed installation and configuration instructions are provided in the *Appeon Installation Guide*.

2.3 Verify demo installation

The Appeon installation program installs and fully configures the demos so that they are ready for use without any additional configuration.

Verify that all the tasks outlined below have been performed correctly, and that your system is able to accept these settings. This will ensure that you do not experience any technical difficulties with the demos or this tutorial.

The installation program performs the following installation and configuration tasks:

- Copies the three demos (PowerBuilder demos) into the folder where Appeon Developer was installed.
- Adds the AppeonSample database service in Adaptive Server Anywhere, and sets the service to start automatically.
- Creates two listeners in the Jaguar server:

  - appeonserverhttp (host name: localhost, port number: 9988)
  - appeonserveriiop (host name: localhost, port number: 9989)
- Creates ASInterface and AppeonCodeExamples in Installed Packages of Jaguar server.
- Creates the component appeon_distributed_service in the AppeonCodeExamples package.
- Adds two services in the Jaguar server:
  1) ASInterface/CorbaHousekeeperService
  2) ASInterface/HoursekeeperService
  3) ASInterface/LogServer
- Configures the JDBC connection cache appeonsample using the JDBC-ODBC Bridge driver.
- Configures Appeon Developer for the demos:
  - Creates six application profiles, two for each demo; one component profile for the Appeon Code Examples demo with Pure-JavaScript deployment option.
  - Creates two server profiles for the locally installed EAServer - one for the Web server and one for the application server.
  - Creates a local deployment profile that includes the preceding two configured server profiles.
- Configures AEM for the demos:
  - Configures the connection cache appeonsample for the transaction object SQLCA in each demo.
  - All other settings use AEM default values.

2.4 Start the PowerBuilder demos

2.4.1 Overview

This chapter guides the user through the running of the demos in PowerBuilder, and introduces the functions of the demos.

2.4.2 Load Appeon Demo PowerBuilder workspace

Appeon Demo PowerBuilder Workspace is the location of the PowerBuilder source code for the three Appeon demos. There are two methods to access this workspace:

1) Use the Windows shortcut created in the Start menu during installation.

2) Open the demo workspace from the PowerBuilder IDE.

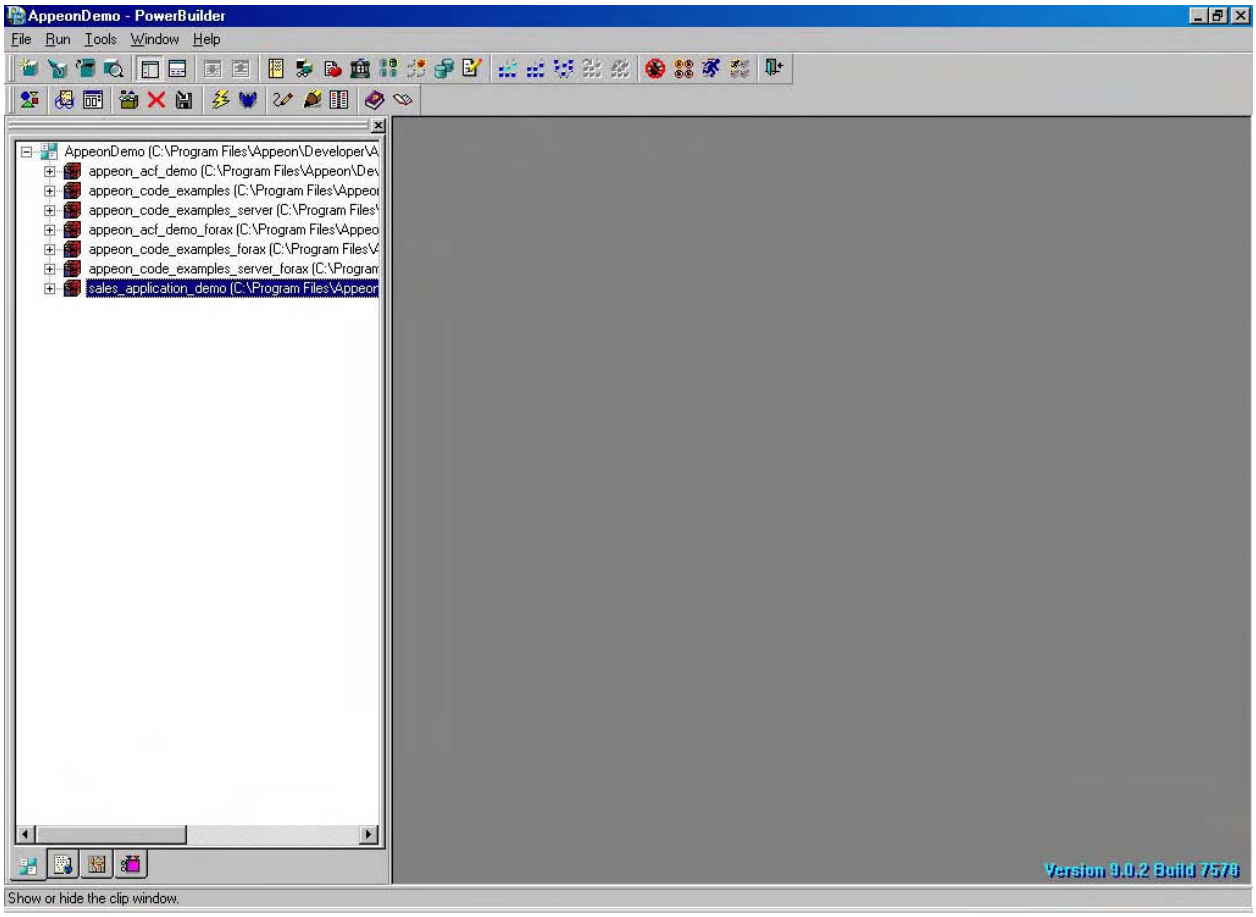
2.4.2.a Method 1: From the newly-added Windows shortcut

Once installation is complete, a menu item entitled *Appeon 3.1 for PowerBuilder* is added to the Windows Programs menu. You can access the Appeon Demo PowerBuilder Workspace directly from the menu by selecting Windows *Start menu | Programs | Appeon 3.1 for*

PowerBuilder | Appeon Demos | Appeon Demo PB Workspace to open the Appeon Demo PowerBuilder Workspace.

When PowerBuilder starts, the demos will be loaded into the AppeonDemo workspace, as shown in Figure 2-1. Refer to Figure 2-1 for more details.

Figure 2-1: AppeonDemo workspace in PowerBuilder IDE



2.4.2.b Method 2: Open the demo workspace from the PowerBuilder IDE

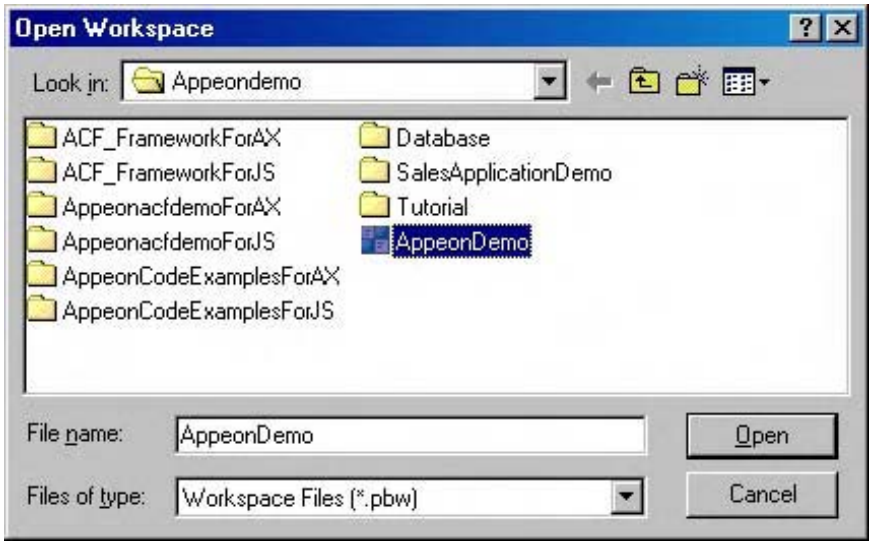
When PowerBuilder starts, the Appeon Developer toolbar will be displayed within the PowerBuilder IDE, but the Appeon demos will not be loaded. The user needs to manually open the source code of the demos in PowerBuilder.

Open the source code by performing the following steps:

STEP 1 – Right-click on “No Workspace” in the PowerBuilder System Tree and select “Open Workspace”.

STEP 2 – Go to the AppeonDemo folder for the Appeon Demo PowerBuilder Workspace (AppeonDemo.pbw). The AppeonDemo folder is located directly under the Appeon Developer installation directory. At default installation, the path is %APPEON_DEVELOPER%\appeondemo. %APPEON_DEVELOPER% is the Appeon Developer installation directory (for example: C:\Program Files\Appeon\Developer\appeondemo). Refer to Figure 2-2.

Figure 2-2: Open Appeon Demo PowerBuilder workspace manually



STEP 3 – Select the AppeonDemo.pbw file to open it. The source code for the Appeon demos is loaded in PowerBuilder. Refer to Figure 2-1.

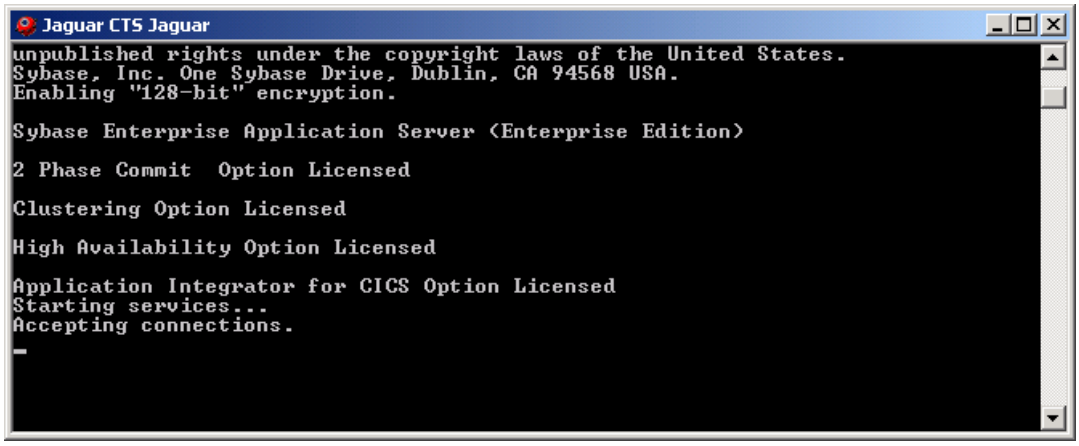
2.5 Start Appeon Server

EAServer must be started before you perform any operations with Appeon Code Examples Demo or attempt to run any demo Web application. To start EAServer, follow the steps below.

STEP 1 – Select Windows Start menu | Programs | Appeon 3.1 for PowerBuilder | Jaguar Server. EAServer starts in a command window.

STEP 2 – Wait until the "Accepting connections" command line prompt appears in the command window. This indicates that EAServer has been started successfully. Refer to Figure 2-3.

Figure 2-3: Start Jaguar Server



3 Running Sales Application Demo

3.1 Overview

The Sales Application Demo is a sample sales application that tracks customers, orders, and product information. It also provides application security at a window-level that allows users access to some windows but not others, and allows for personalization, on a user-by-user basis, of the various reports in the Report menu. In this application, you can:

1) Log in as the administrator. The administrator can view and manage all the security settings for the application, including settings for group and user accounts. For more details, refer to Section 3.4: *Security settings*.

2) Add new customers to the system. Users can add new customers into the system and manage information for existing customers. For more details, refer to Section 3.5: *Customer information management*.

3) Add new orders for customers. A new order must be associated with an existing customer. A new customer must be added to the system before their order can be placed. For more details, refer to Section 3.6: *Order information management*.

4) Process orders. Once an order has been placed, it enters the processing queue. Orders can be marked as in-process or completed. For more details, refer to Section 3.6: *Order information management*.

5) Ship orders. Completed orders can be shipped. For more details, refer to Section 3.6: *Order information management*.

6) Send statements and receive payments. Users can track unpaid orders and send statements to customers. For more details, refer to Section 3.6: *Order information management*.

The Sales Application Demo (*sales_application_demo_js*) in Pure-JavaScript deployment works exactly the same as that (*sales_application_demo_ax*) with Appeon Xcelarator deployment. The following sections take *sales_application_demo_ax* as an example to show how to work with the demo.

3.2 Run Sales Application Demo

To run the Sales Application Demo, follow the steps below.

STEP 1 – Click the *Select and Run* button in the PowerBar and select "sales_application_demo_ax" to run the demo.

STEP 2 – Log in to the Sales Application Demo. The default User ID and password display in the login window. Click the *Login* button to log into the demo. Refer to Figure 3-1.

Figure 3-1: Sales Application Demo login

3.3 Order Viewer

Click the *Order Viewer* button in the toolbar of the demo main window or select Order Viewer from the File menu. The Order Viewer window will display as shown in Figure 3-2. It is a read-only window with three tabs available for users to view and search for the latest order and customer information. The TreeView is a quick and easy way to traverse through the records displayed in the Customer tab and Order tab. Refer to Figure 3-2. For more information on controls/objects in the Order View window, refer to Table 3-1.

Figure 3-2: The Order Viewer window

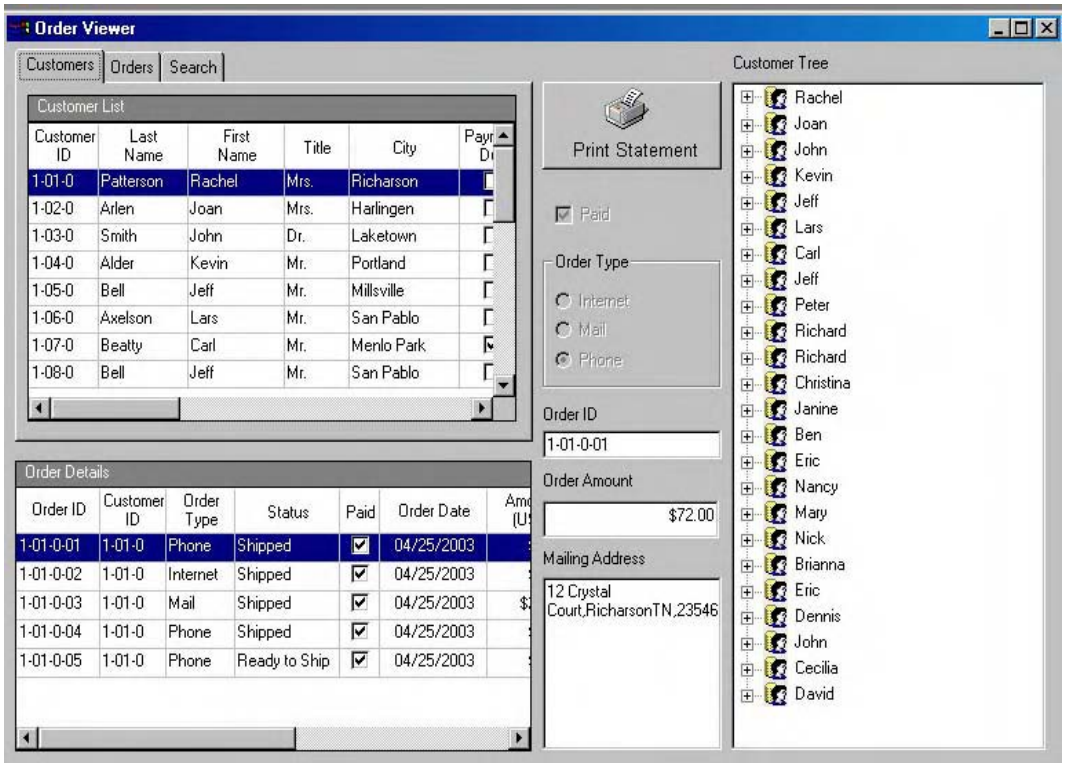


Table 3-1: Controls/Objects in the Order View window

Control/Object		Description
Customers tab page	Customer List	A grid DataWindow for users to view customer information.
	Order Details	A grid DataWindow displaying details of selected customers' order(s).
Orders tab page	Order List	A grid DataWindow for users to view order information.
	Customer Details	A freeform DataWindow displaying the customer details for a selected order.
Search tab page	Search	Contains a list box for users to select a search type: Customer ID, Order ID, Order Type, and Paid. Once the search type is selected, an editable column or dropdown list box appears, allowing users to set the search criteria. Click the *Search* button to perform the search.
	Search Result	A DataWindow displaying search results that meet specified search criteria. All records are searched.
Print Statement		Prints a customer statement that contains both paid and unpaid orders for the current customer.
Paid		Displays the payment status of a selected order.
Order Type, Order ID, Order Amount		Displays order information for a selected order.
Mailing Address		Displays the mailing address of the current customer.
Customer Tree		A TreeView of customers. Click on a name in the TreeView to view a customer's contact and order details. Selecting a specific order in the TreeView will highlight that order in the Order Detail DataWindow.

3.4 Security settings

The administrator has full rights to view and manage all group and user account settings. Other users whose accounts are created in the application can be set to access only certain features of the application depending on the rights of the group they are in.

There are two windows available to manage the security of the application: Security Groups and User Accounts. To access the windows, click File | Security Manager. Refer to Figure 3-3.

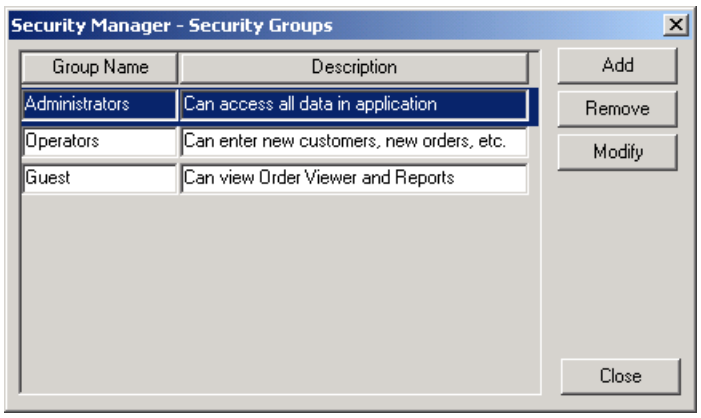
Figure 3-3: Security Manager menu

3.4.1 Security Groups

STEP 1 – Click File | Security Manager | Security Groups.

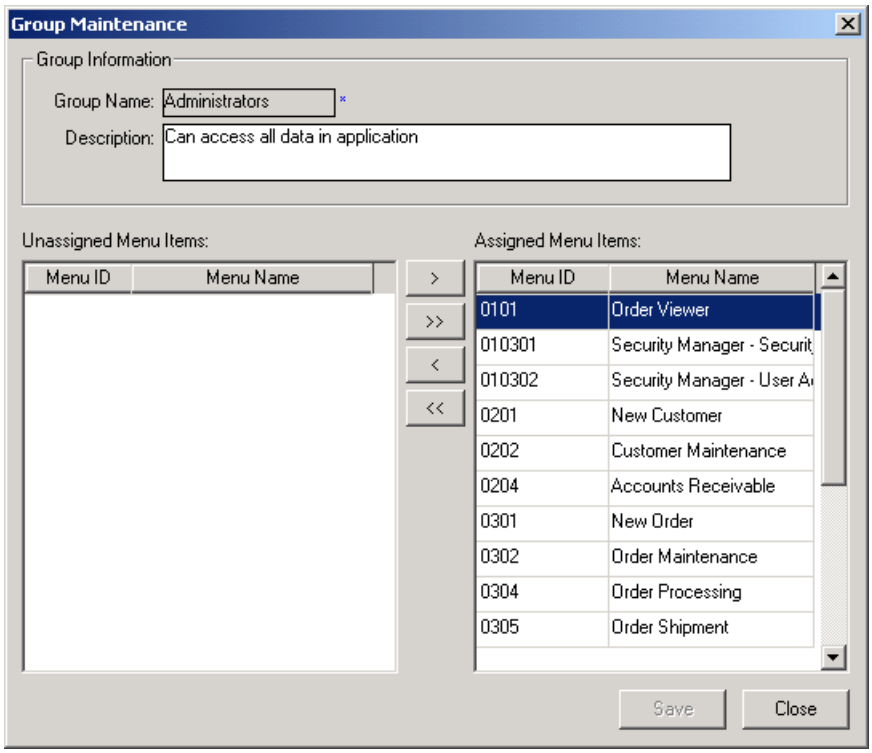
The Security Groups window allows users to add new groups, remove groups, and modify the settings for existing groups. Refer to Figure 3-4.

Figure 3-4: Manage Security Groups



STEP 2 – Click the *Modify* button and view the settings for the selected group in the Group Maintenance window that appears. Refer to Figure 3-5.

Figure 3-5: Group maintenance



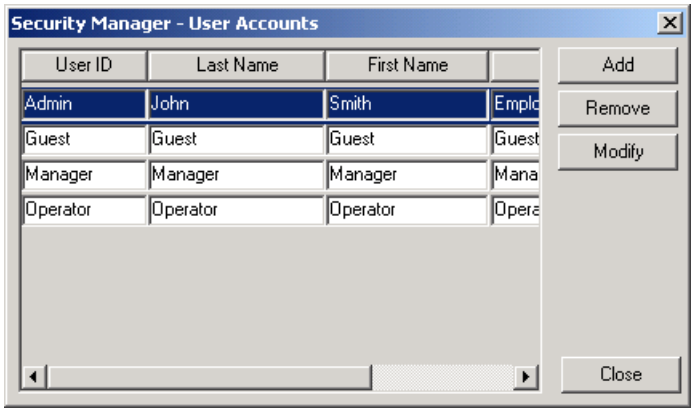
To assign rights to a group, use the arrow buttons to move menu items from “Unassigned Menu Items” to “Assigned Menu Items”. The Group Name field is read-only in this window.

STEP 3 – Save the settings and close the Group Maintenance and Security Groups windows.

3.4.2 User Accounts

STEP 1 – Click File | Security Manager | User Accounts. The User Accounts window is displayed. Refer to Figure 3-6.

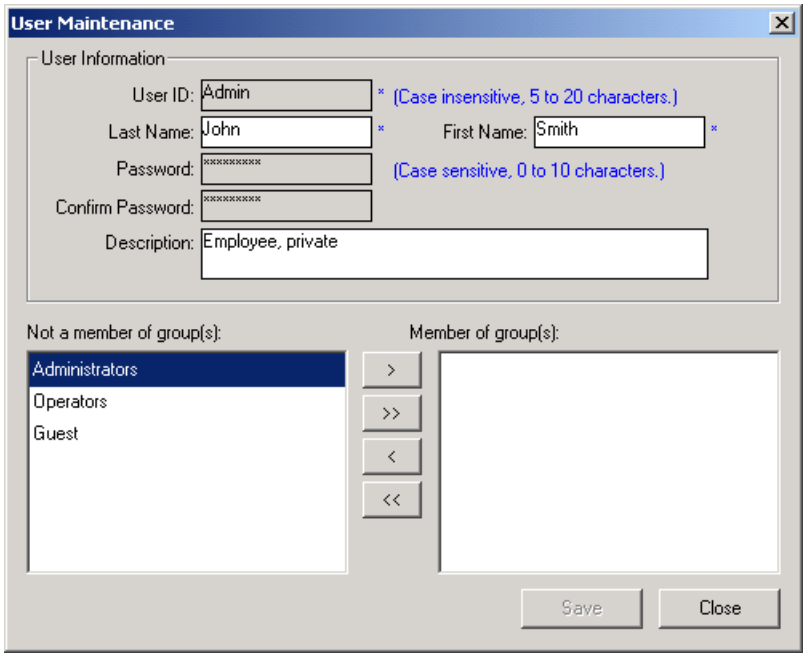
Figure 3-6: Manage User Accounts



Users can add, remove, or modify the user account settings.

STEP 2 – Click the *Modify* button. The User Maintenance window displays. Refer to Figure 3-7.

Figure 3-7: User Maintenance



Use the arrow buttons to assign membership to a group. The User ID, Password, and Confirm Password fields are read-only in this window.

STEP 3 – Save changes and close the User Maintenance window to return to the User Accounts window. Click *Close* in the User Accounts window.

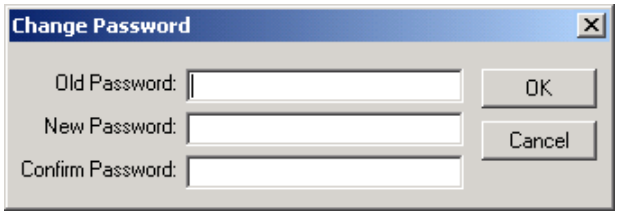
STEP 4 – Any changes made to the user account will not take effect until the user exits the application and logs in again.

3.4.3 Change password for current user

The Change Password window will change the password for the user currently logged in to the system (in this case, the administrator). By default, the administrator password is set to Null.

STEP 1 – Click File | Change Password. The Change Password window is displayed. Refer to Figure 3-8.

Figure 3-8: Change Password



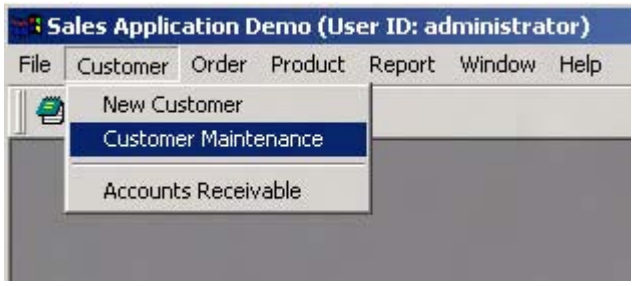
STEP 2 – Type the old and new passwords and confirm the new password.

STEP 3 – Any changes made to the password for the current user will not take effect until the user exits the application and logs back in again with the new password.

3.5 Customer information management

The Customer menu in the MDI window of the Sales Application Demo allows users access to windows for adding new customers, maintaining customer information, and performing accounts receivable tasks. Refer to Figure 3-9.

Figure 3-9: The Customer menu

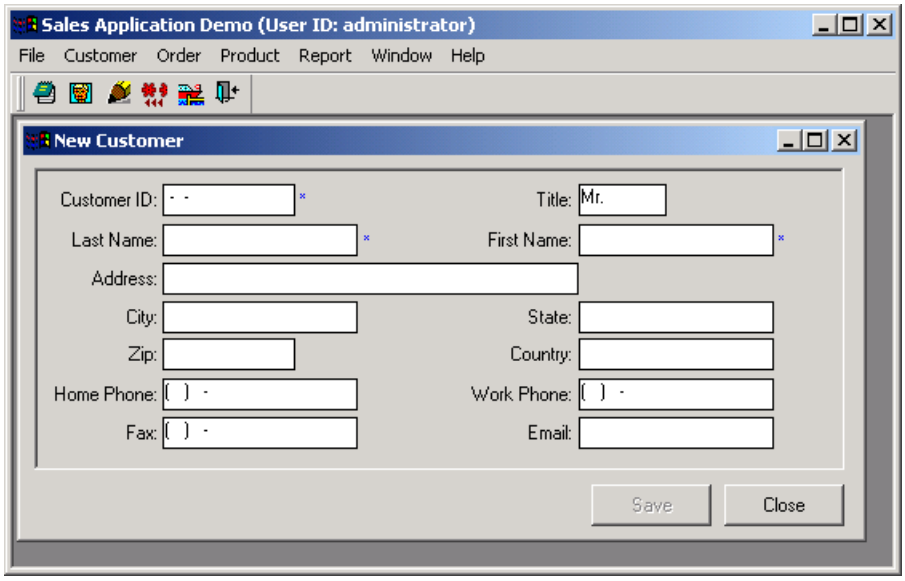


3.5.1 New Customer

You must complete a new customer's information before filling any orders for that customer.

STEP 1 – Click the *New Customer* icon () in the toolbar or select Customer | New Customer from the menu. Refer to Figure 3-10.

Figure 3-10: Adding a new customer



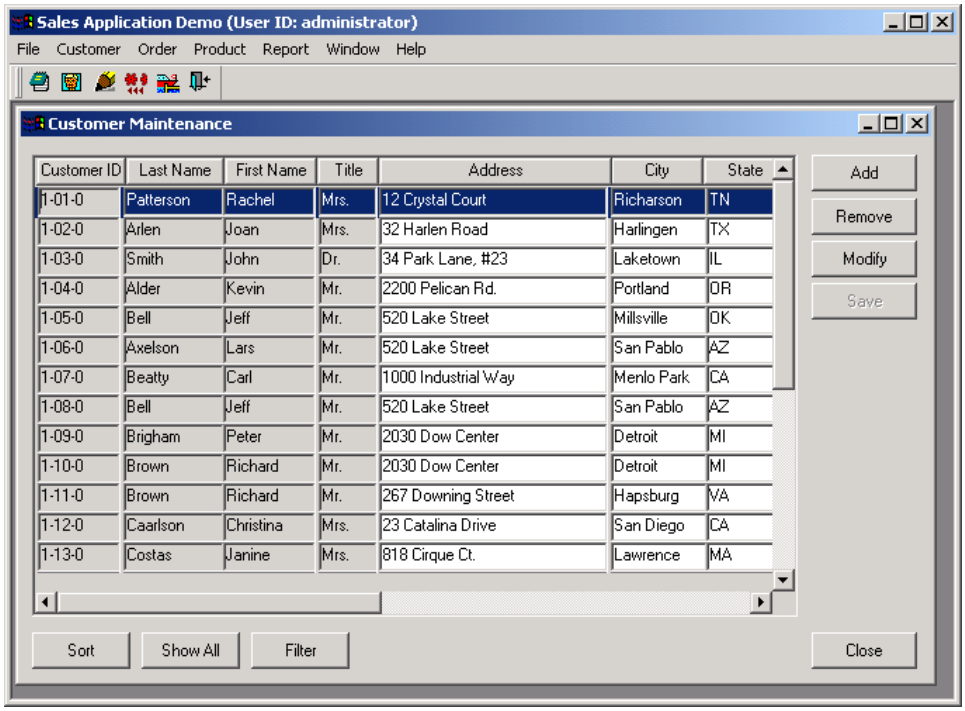
STEP 2 – Enter the customer information. The customer ID, First Name, Last Name, and Title information cannot be edited once they are saved.

STEP 3 – Save the new customer information and close the new customer window.

3.5.2 Customer Maintenance

STEP 1 – Click Customer | Customer Maintenance. The Customer Maintenance window is displayed. Refer to Figure 3-11.

Figure 3-11: Customer Maintenance



Add, remove, or modify customer information. The Customer ID, Last Name, First Name, and Title information are read-only and cannot be edited. A customer can only be removed if the customer has not placed any orders. Orders can only be removed if they have not been processed or shipped (for example, those with New Order status).

STEP 2 – Modify a field directly by typing in the field and click *Save* to accept the change, or select a customer from the list and click *Modify* to display the Customer Maintenance window and change the customer's information. The Customer ID, Last Name, First Name, and Title information are read-only and cannot be edited.

Note: If you edit the fields directly in the customer maintenance window and then edit a particular row using the Modify button, always remember to save the edited information before clicking the *Modify* button.

STEP 3 – Save changes and close to return to the Customer Maintenance window.

3.5.2.a Sort, show all and filter

The *Sort*, *Show All*, and *Filter* buttons help the user to display rows in the DataWindow that meet certain criteria.

Click the *Sort* button to select the sort criteria. (You can also select any column header to sort the information by the selected column).

Click the *Filter* button to set criteria for displaying certain customer information. Users can filter customer information using a number of criteria including Customer ID, Name, city, state, country, and payment status.

Click the *Show All* button to show all customers.

3.5.3 Accounts Receivable

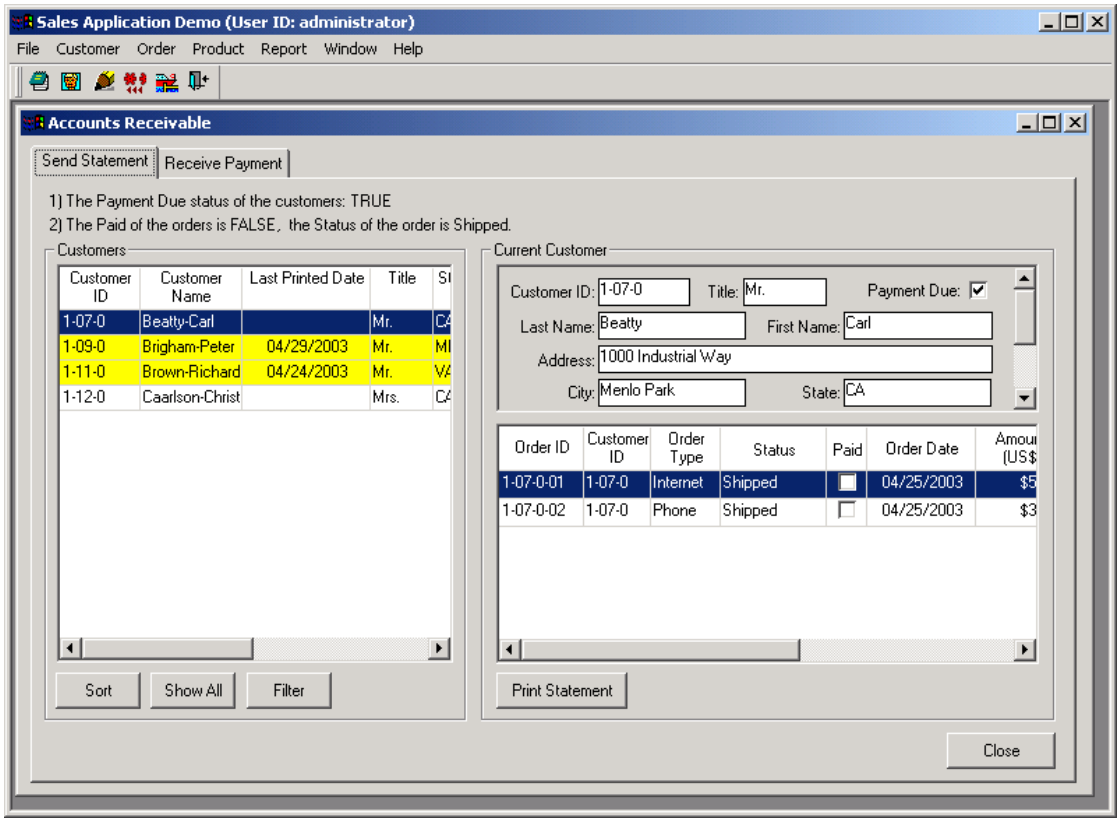
The Accounts Receivable window tracks orders that have been shipped to customers but have not been paid for yet. Users can:

- view customer and order information for orders that are unpaid,
- print statements to send to customers, and
- mark an order as paid once payment is received.

3.5.3.a Send Statement tab

STEP 1 – Click Customer | Accounts Receivable. The Accounts Receivable window is displayed. Refer to Figure 3-12.

Figure 3-12: The Send Statement tab in the Accounts Receivable window



STEP 2 – Click the Send Statement tab in the Accounts Receivable window.

Users can view customers with unpaid orders. Customer information highlighted in yellow indicates that a statement has already been printed.

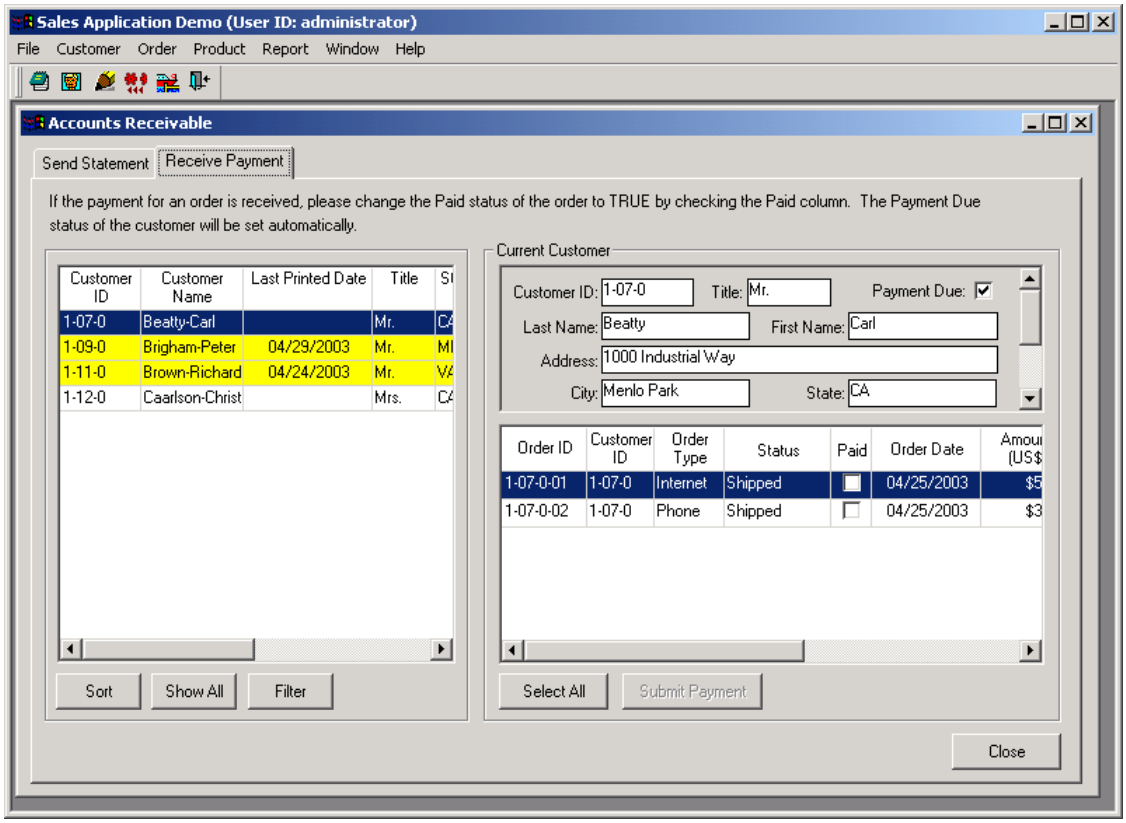
Click on a name in the Customers group box to view the customer's details (in the Current Customer group box) and corresponding orders. The information in these fields is read-only and cannot be modified from this screen.

STEP 3 – Click the *Print Statement* button in the Send Statement tab to print an invoice for the shipped but unpaid orders.

3.5.3.b Receive Payment tab

STEP 1 – Click the *Receive Payment* tab in the Accounts Receivable window. Refer to Figure 3-13.

Figure 3-13: The Receive Payment tab in the Accounts Receivable window



Users can view customers with unpaid orders. Customer information highlighted in yellow indicates that a statement has already been printed.

Click on a name in the Customers group box to view the customer's details and orders. All the information in these fields, except for the Paid checkbox, is read-only and cannot be modified from this screen.

Click the *Select All* button to mark all orders for a customer as paid.

STEP 2 – To mark an order as paid, select a customer. Click the Paid checkbox for an order that has been paid or click *Select All* to select all orders. Click the *Submit Payment* button. The customer's name will be automatically removed from the Accounts Receivable system if the customer has paid for all orders.

3.6 Order information management

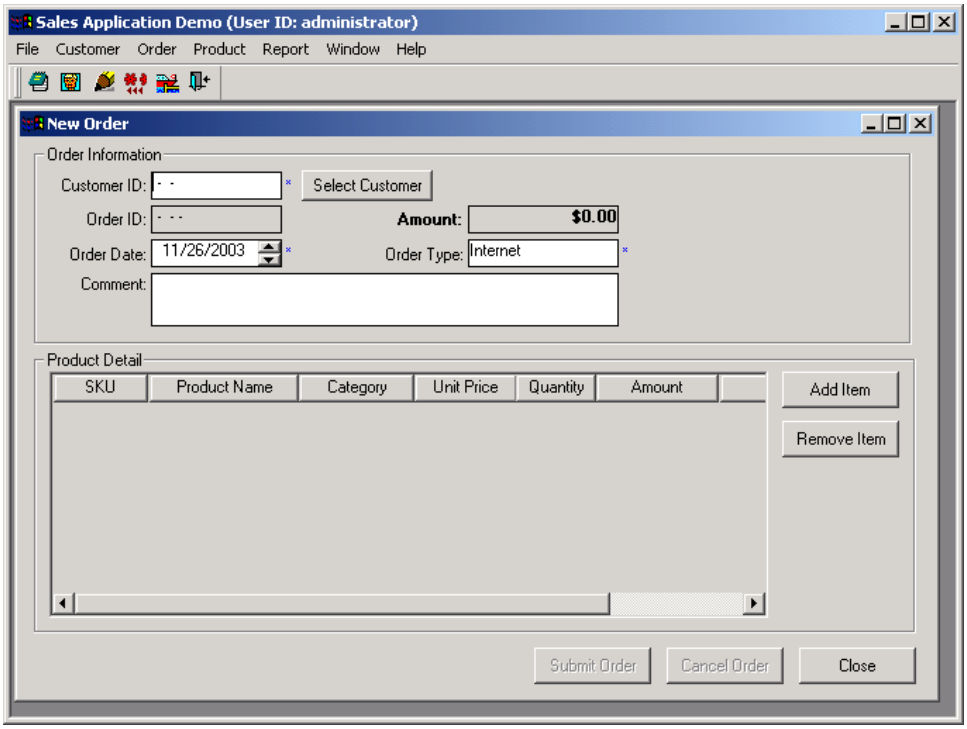
The Order menu in the MDI window of the Sales Application Demo allows users access to windows for adding new orders, maintaining information on existing customers, and performing order processing and shipping tasks. Refer to Figure 3-14.

Figure 3-14: The Order menu

3.6.1 New order

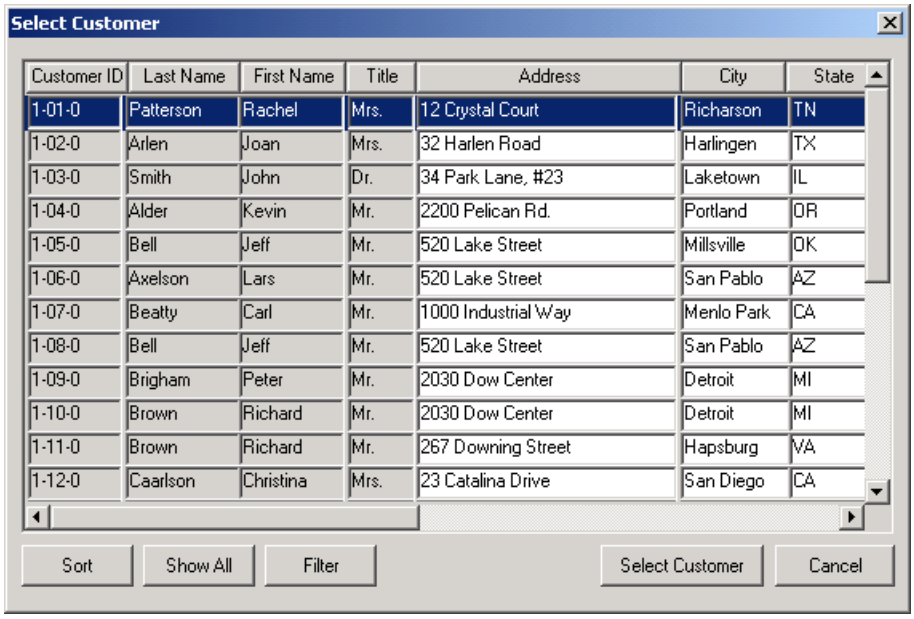
STEP 1 – Click the *New Order* icon ( ) in the toolbar or select Order | New Order from the menu. The New Order window appears. Refer to Figure 3-15.

Figure 3-15: The New Order window



STEP 2 – Click the *Select Customer* button to select the customer that the order belongs to or key in the customer ID. If the order belongs to a new customer, remember to create a new customer before entering an order for that customer. Refer to Figure 3-16.

Figure 3-16: The Select Customer window



STEP 3 – Select a customer by clicking on the appropriate row. The Customer ID, Last Name, First Name, and Title information is read-only and cannot be edited in this window.

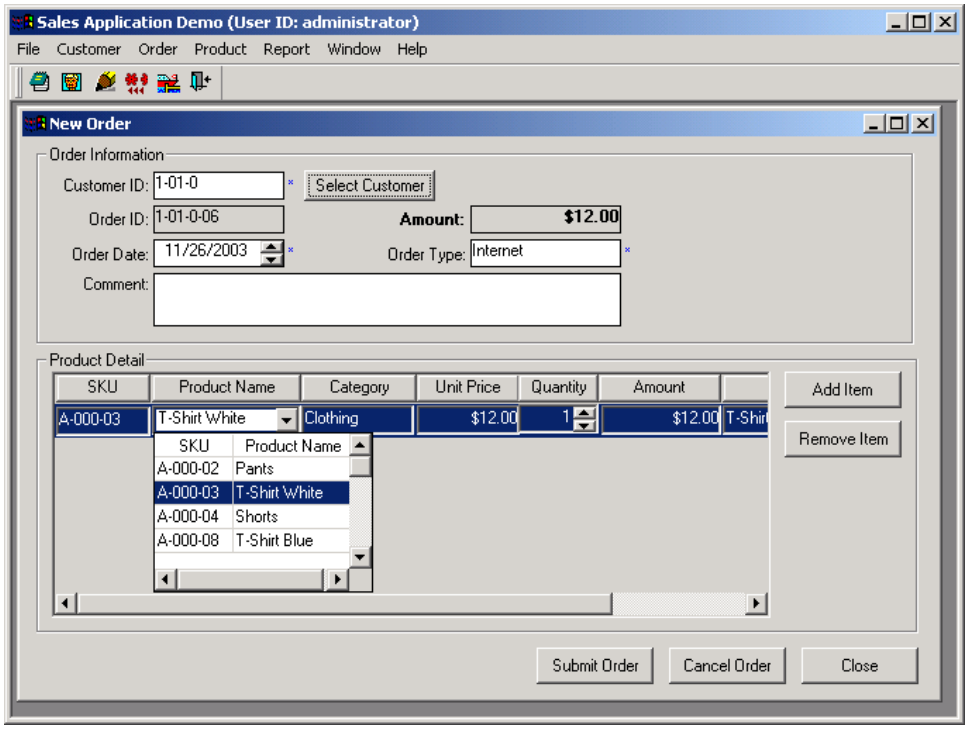
STEP 4 – Click the *Select Customer* button. The customer information will be displayed in the window.

STEP 5 – Select the Order Date from the scroll box or type the order date. Select the Order Type.

STEP 6 – Click the *Add Item* button to add items to the order. A row appears in the Product Detail window.

STEP 7 – Click the Product Name field to select a product from the DropDownListBox, and select the quantity from the Quantity scroll box or type the quantity. Continue adding additional items by clicking the *Add Item* button. Remove items by clicking the *Remove Item* button. Refer to Figure 3-17.

Figure 3-17: Add a product



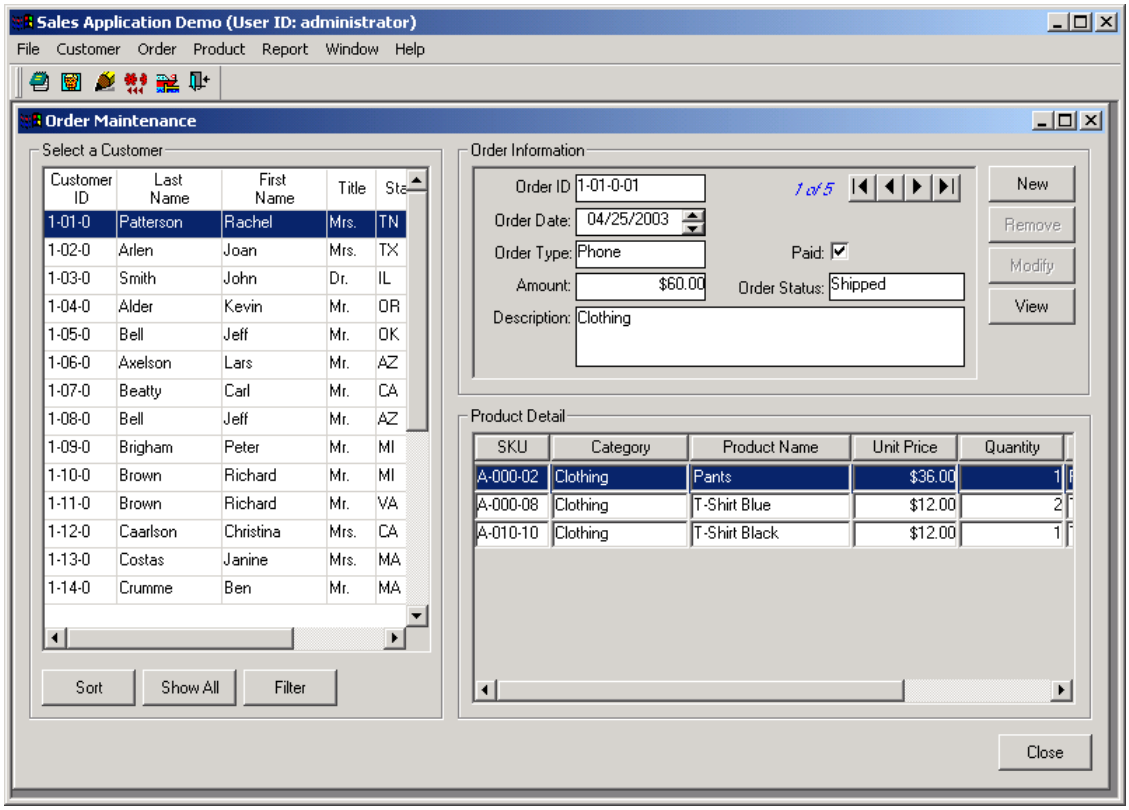
STEP 8 – Once all the desired items are added to the order, click the *Submit Order* button.

Once an order is submitted or canceled, the New Order window remains active until it is actively closed so that you can submit an order for another customer.

3.6.2 Order maintenance

STEP 1 – Select Order | Order Maintenance from the dropdown menu. The Order Maintenance window is displayed. Refer to Figure 3-18.

Figure 3-18: The Order Maintenance window



Create a new order, remove an order, modify an order, or view the order details from the Order Maintenance window. Orders can only be removed or modified if they have not been processed or shipped (for example, has a New order status).

All the information in the Order Maintenance window is read-only and cannot be directly modified in this window.

Select a customer by clicking on a row in the Select a Customer window. The corresponding order information for that customer appears in the Order Information window, and the products ordered are displayed in the Product Detail window.

Order Information: When a customer is selected, the relevant order information is displayed in the Order Information window.

Click the arrow buttons to scroll among orders for a customer.

Click the *New* button to add a new order for a customer. For instructions on adding a new order, refer to 3.6.1: *New order*.

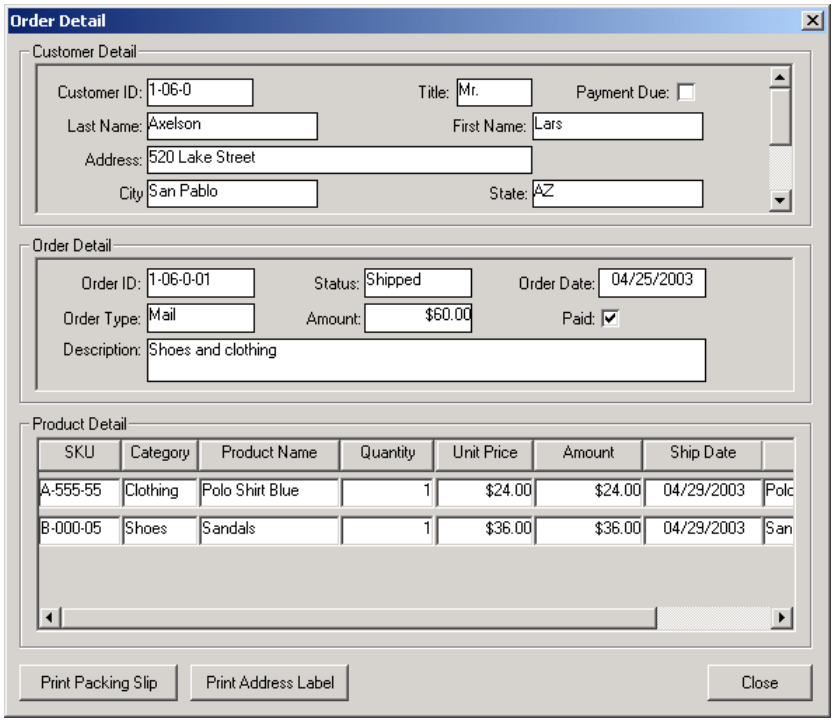
Click the *Remove* button to remove an order for a customer. Only orders with New Order status can be removed. Once the order is in Process (Order Status is set to Processing) or an order has been shipped (Order status is set to Shipped), it cannot be removed.

Click the *Modify* button to modify an order. Once the order is in Process or has been shipped, it cannot be modified.

Click the *View* button to view all the information about an order in the Order Detail window that has the functionality to print a packing slip or address label.

STEP 2 – Click the *View* button. The Order Detail window displays. Refer to Figure 3-19.

Figure 3-19: The Order Detail window



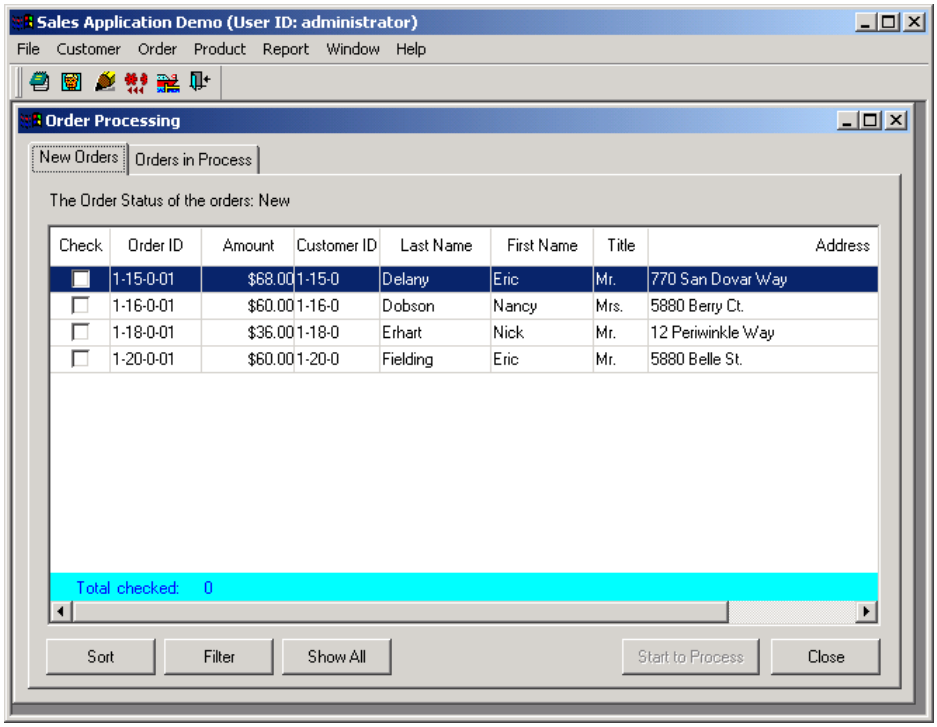
STEP 3 – Click the *Print Packing Slip* and *Print Address Label* buttons to print packing slips and address labels. Click *Close* to return to the Order Maintenance window.

STEP 4 – Click *Close* in the Order Maintenance window.

3.6.3 Order processing

STEP 1 – Click the *Order Processing* icon () in the toolbar or select Order | Order Processing from the menu. The Order Processing window is displayed and the New Orders tab is activated. Refer to Figure 3-20.

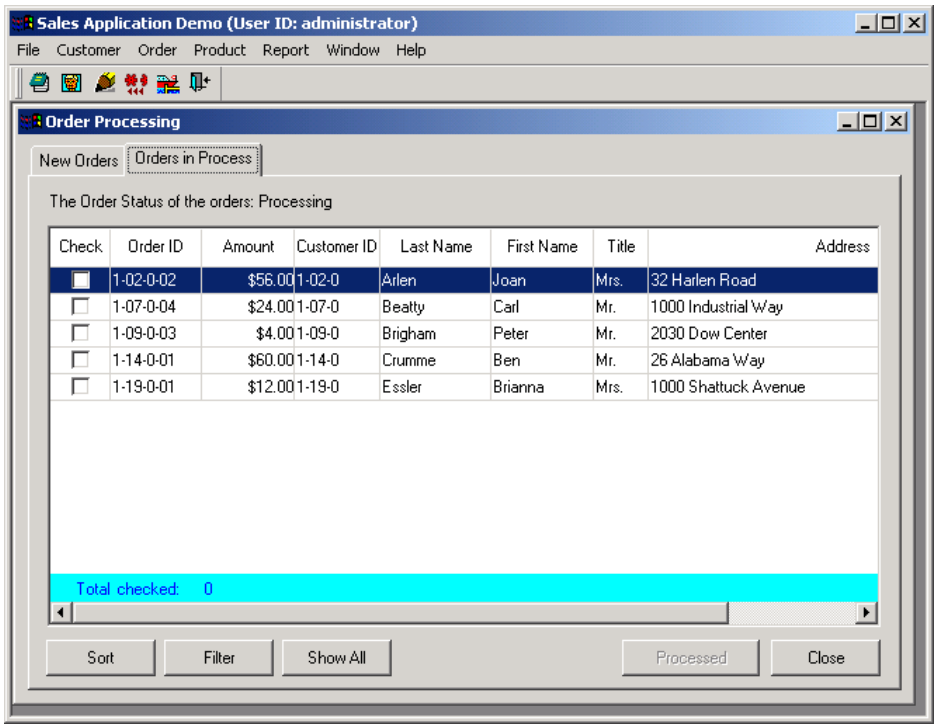
Figure 3-20: The Order Processing window (New Orders tab)



STEP 2 – Check the orders that are to be processed, and click the *Start to Process* button. The orders will be removed from the New Orders tab page and will appear in Orders on the Process tab page. For example, select orders 1-15-0-01 and 1-16-0-01 by checking the checkbox next to the two orders and click the *Start to Process* button.

STEP 3 – Select the Orders in the Process tab. The orders selected for processing are displayed in this tab. Refer to Figure 3-21.

Figure 3-21: Orders in process



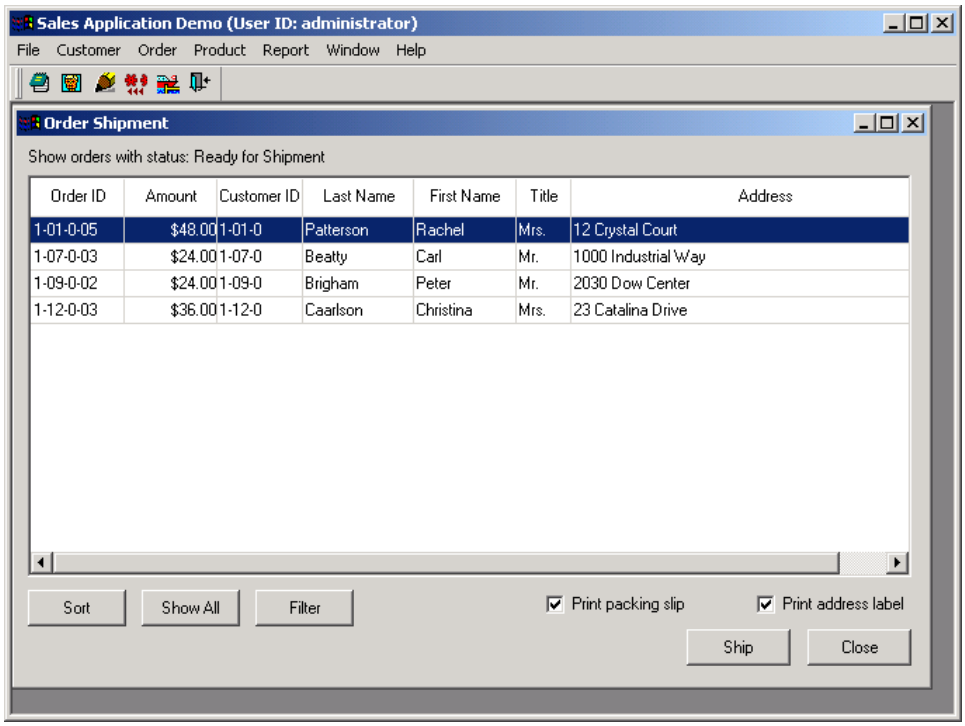
STEP 4 – Check the orders that have been processed (ready to be shipped), and click the *Processed* button. The orders will be removed from the Orders in Process tab page and will appear in the Orders Shipment window. For example, select orders 1-15-0-01 and 1-16-0-01 by checking the checkbox next to the two orders and click the *Processed* button.

STEP 5 – Click *Close* in the Order Processing window.

3.6.4 Order shipment

STEP 1 – Click the Order Shipment icon () in the toolbar or select Order | Order Shipment from the menu. The Order Shipment window is displayed. Refer to Figure 3-22.

Figure 3-22: The Order Shipment window



All the orders that have been processed in the Order Processing window will now appear in the Order Shipment window.

STEP 2 – Select the orders that are ready to be shipped and click the *Ship* button. The orders will be removed from the Order Shipment window. All orders that have been shipped will then appear in the Send Statement tab of the Accounts Receivable window.

3.7 Product information management

The Product menu in the MDI window of the Sales Application Demo allows users to access windows for managing the product categories and products, adding new products, and viewing the entire product catalog. Refer to Figure 3-23.

Figure 3-23: The Product menu

3.7.1 Catalog manager

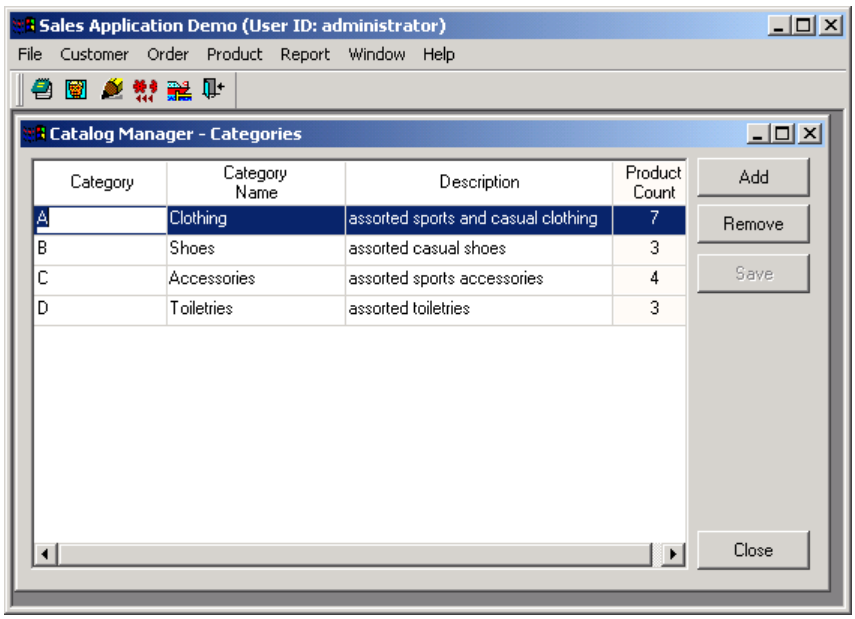
There are two items to select in the Catalog manager menu: Categories and Products. Refer to Figure 3-24.

Figure 3-24: The Catalog Manager submenus

3.7.1.a Categories

STEP 1 – Click Product | Catalog Manager | Categories from the MDI dropdown menu. The Catalog Manager – Categories window displays. Refer to Figure 3-25.

Figure 3-25: Catalog Manager – Categories



STEP 2 – Click directly in a field to modify the Category Name or Description. The category name cannot be modified if there are products for this category. Click *Save* to save any changes. The product count is automatically updated as changes are made to the product list, reflecting the total product count for the given category.

STEP 3 – Click the *Add* button to add a new category. A new row appears. Type the new category information into the fields.

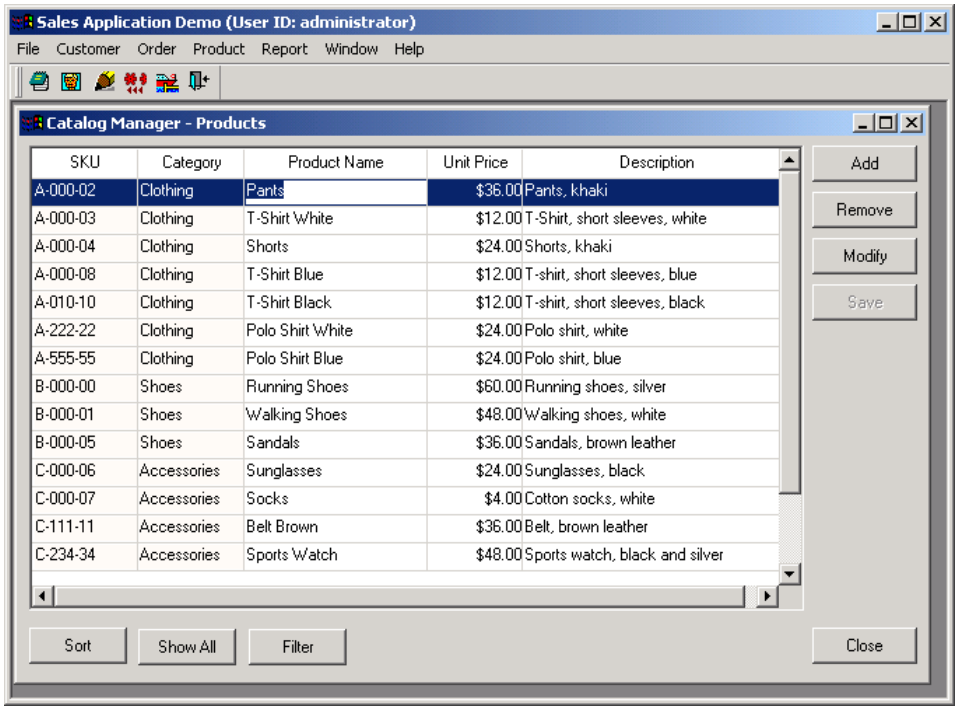
STEP 4 – Click the *Remove* button to delete a category. Only a category with no products defined in it can be deleted from the Categories window.

STEP 5 – Click *Close* to close the Categories window.

3.7.1.b Products

STEP 1 – Click Product | Catalog Manager | Products from the MDI menu. The Catalog Manager – Products window is displayed. All the products are listed in the Products window. Refer to Figure 3-26.

Figure 3-26: Catalog Manager – Products



STEP 2 – Click directly in a field to modify the Product Name, Unit Price, or Description. Click *Save* to save any changes.

Note: If you edit the fields directly in the "Catalog Manager – Products" window and then edit a particular record using the modify button, always remember to save the edited information before clicking the *Modify* button.

STEP 3 – Click the *Add* button to add a new product. Refer to Section 3.7.2: *New product* for instructions.

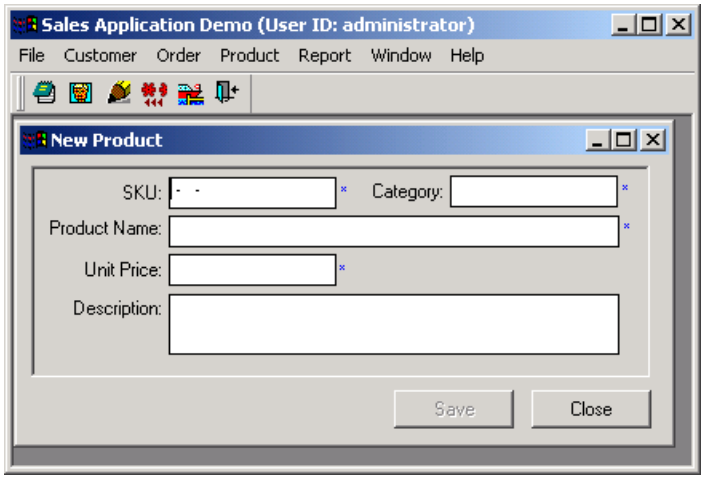
STEP 4 – Click the *Remove* button to delete a product. Only a product that has not been ordered can be deleted from the Categories window.

STEP 5 – Click *Close* to close the Categories window.

3.7.2 New product

STEP 1 – Click Product | New Product from the MDI menu. The New Product window displays. Refer to Figure 3-27.

Figure 3-27: The New Product window



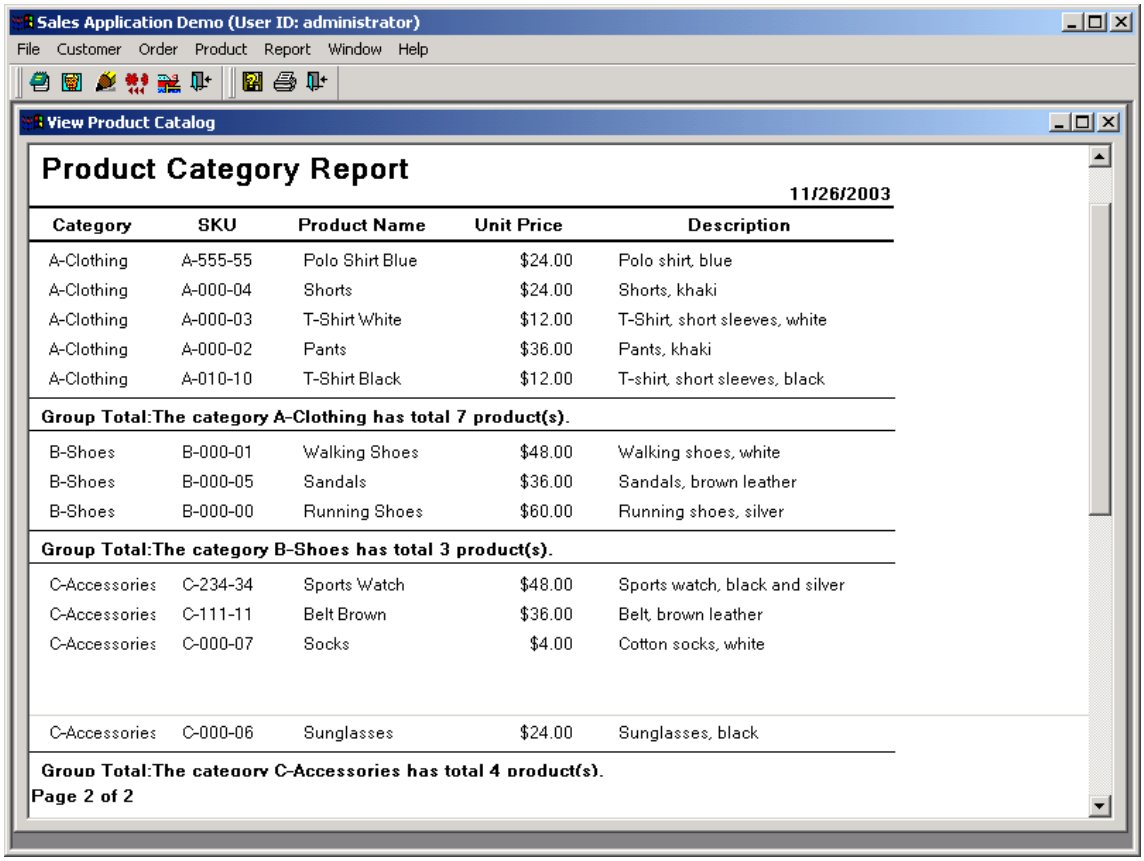
STEP 2 – Enter the information for the product.

STEP 3 – Save the new product into the system. The new product will appear in the Products window of the Catalog Manager as well as in the Product Catalog. When a product is saved, the New Product window remains active until closed.

3.7.3 View product catalog

STEP 1 – Click Product | View Product Catalog from the menu. The Product Catalog window is displayed. Refer to Figure 3-28.

Figure 3-28: The Product Catalog window



STEP 2 – Work in the product catalog window using three additional buttons that appear in the MDI window. Refer to Figure 3-29.

Figure 3-29: Product Catalog toolbar

Click the *SaveAs* button to save the catalog in a number of different formats.

Click the *Print* button to print the product catalog.

Click the *Exit* button to close the Product Catalog window.

3.8 Reports

The Reports menu in the Sales Application Demo window allows users to access the sales and customer reports. The Sales reports can be viewed by order type, product category, and customer. Refer to Figure 3-30.

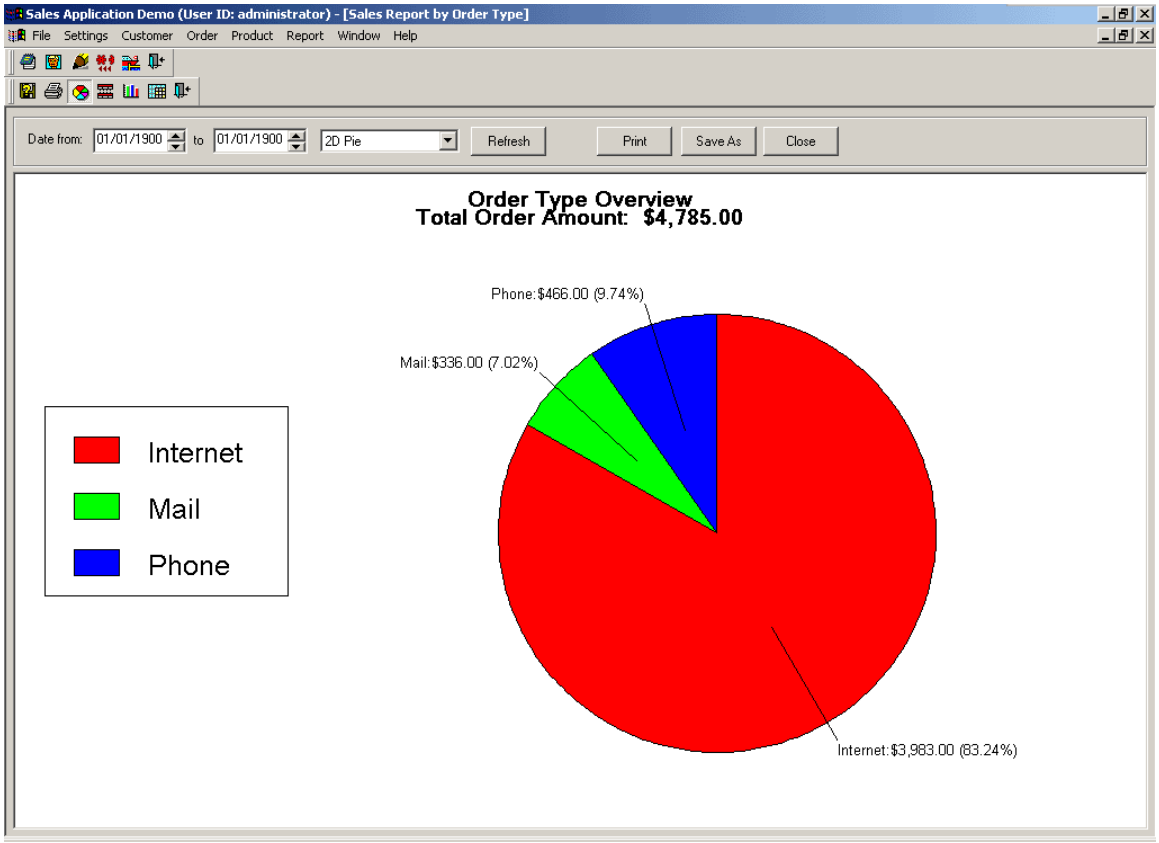
Figure 3-30: The Report menu

3.8.1 Sales reports by order type

The Sales Report by Order Type window displays the total sales for each order type: Internet, phone, and mail.

STEP 1 – Click Report | Sales Report | by Order Type from the menu. The Sales Report By Order Type window is displayed. Refer to Figure 3-31.

Figure 3-31: The Sales Report by Order Type window



STEP 2 – Specify the date to be included in the report by selecting the date range. To get all the data involved, keep the date scope from 00/00/0000 to 00/00/0000.

STEP 3 – Specify the format to display the data from the dropdown list box or from the 2D Pie, 2D Bar Stacked, 3D Column, or Grid Data buttons.

STEP 4 – Click the *Refresh* button to display data. If the Auto Refresh option is enabled under the Settings menu, there is no need to use this button unless you have changed the Date scope for the report.

STEP 5 – Work in the sales report window with seven additional icons that appear when the report is opened. Refer to Figure 3-32.

Figure 3-32: Sales Report by Order Type toolbar

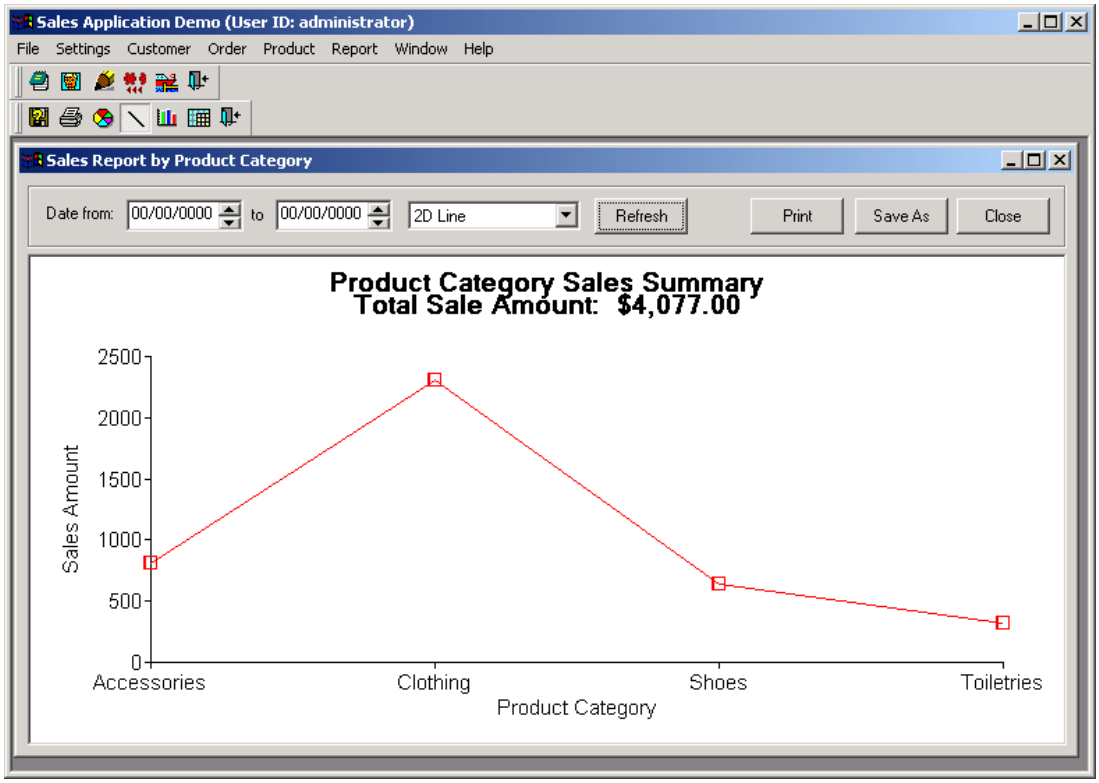
STEP 6 – Adjust the settings from the Settings menu in the Sales Application Demo window. For further instructions on changing the settings, refer to Section 3.8.5: *Settings menu*.

3.8.2 Sales reports by product category

Click Report | Sales Report | by Product Category from the menu. The Sales Report by Product Category window displays.

The Sales Report by Product Category window displays the total sales for each category. Follow the instructions given in the Sales Report by Order Type window shown previously in Section 3.8.1. Refer to Figure 3-33.

Figure 3-33: The Sales Report by Product Category window

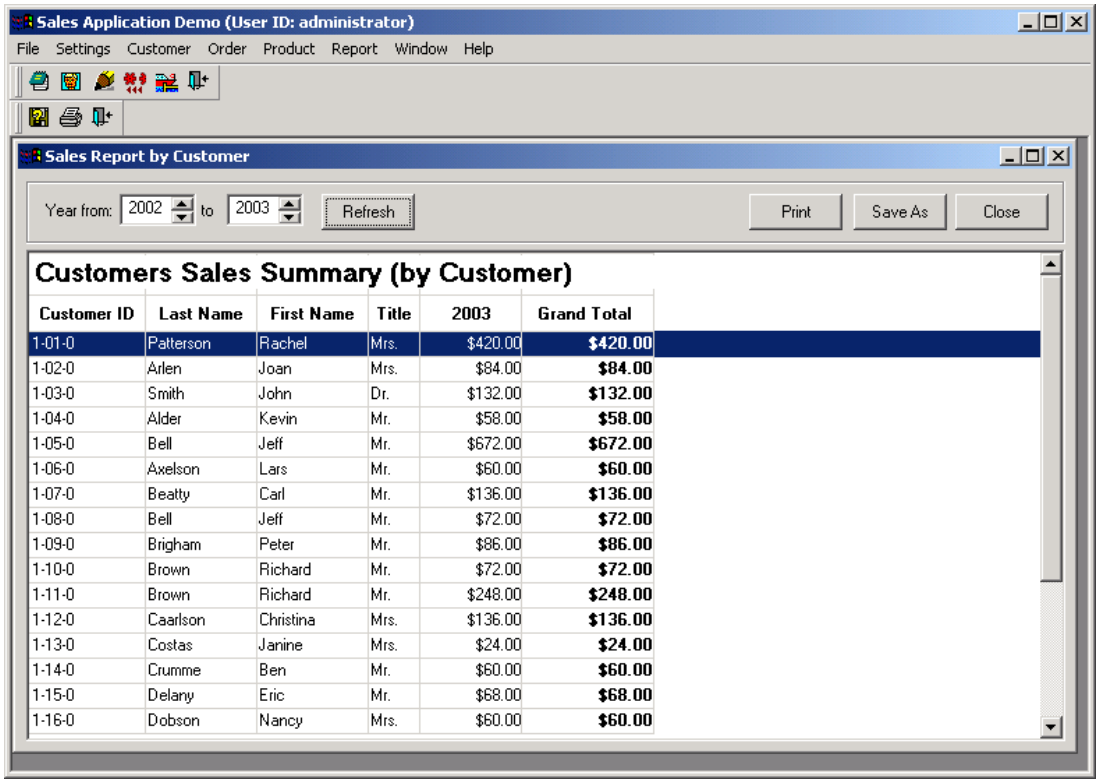


3.8.3 Sales reports by customer

The Sales Report by Customer window displays the total sales for each customer in a table by the date range that the user specifies.

STEP 1 – Click Report | Sales Report | By Customer from the menu. The Sales Report By Customer window is displayed. Refer to Figure 3-34.

Figure 3-34: The Sales Report by Customer window



STEP 2 – Specify the date to be included in the report by selecting the date range in years.

STEP 3 – Click the *Refresh* button to display data. If the Auto Refresh option is enabled under the Settings menu, there is no need to use this button unless you have changed the Date range for the report.

STEP 4 – Operate in the sales report window using three additional buttons that appear when the report is opened: SaveAs, Print, and Exit.

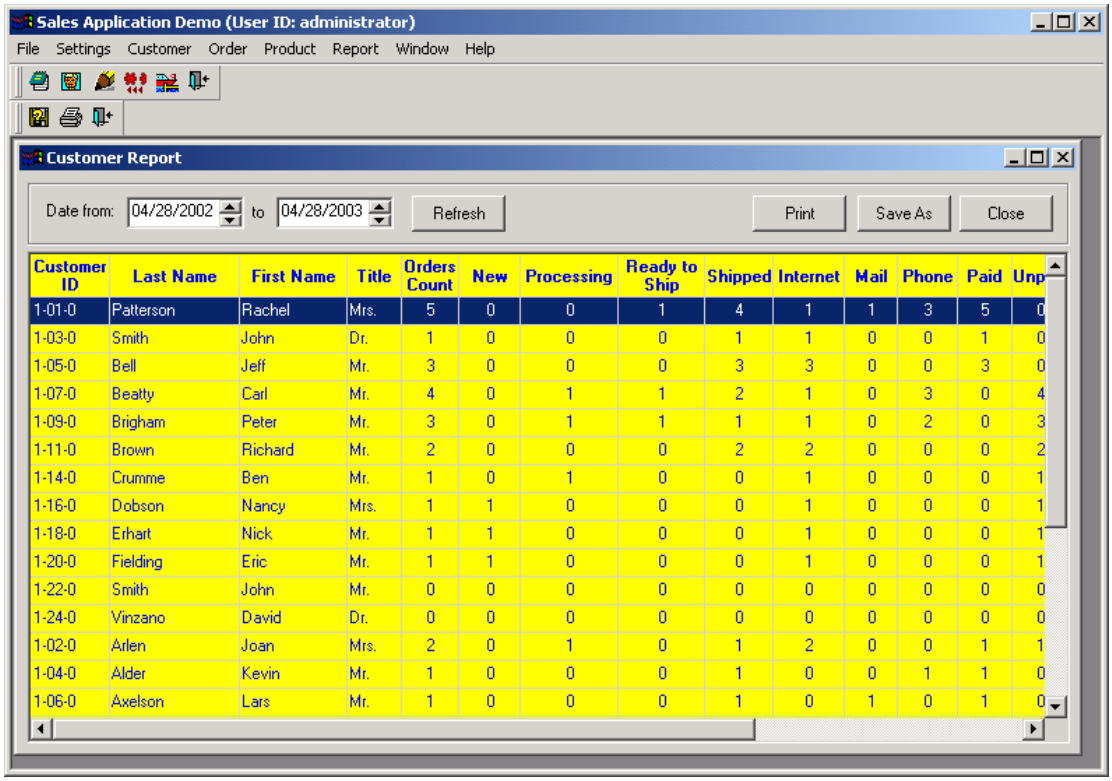
STEP 5 – Adjust the settings from the Settings menu in the MDI window. For further instructions on changing the settings, refer to Section 3.8.5: *Settings menu*.

3.8.4 Customer report

The Customer Report window displays a table containing all the customer data.

STEP 1 – Click Report | Customer Report from the menu. The Customer Report window displays. Refer to Figure 3-35.

Figure 3-35: The Customer Report window



STEP 2 – Specify the date to be included in the report by selecting the date range. To get all the data involved, keep the date scope from 00/00/0000 to 00/00/0000.

STEP 3 – Click the *Refresh* button to display the data. If the Auto Refresh option is enabled under the Settings menu, there is no need to use this button unless you have changed the Date range for the report.

STEP 4 – Operate in the sales report window using three additional buttons that appear when the report is opened: SaveAs, Print, and Exit.

STEP 5 – Adjust the settings from the Settings menu in the MDI window. For further instructions on changing the settings, refer to Section 3.8.5: *Settings menu*.

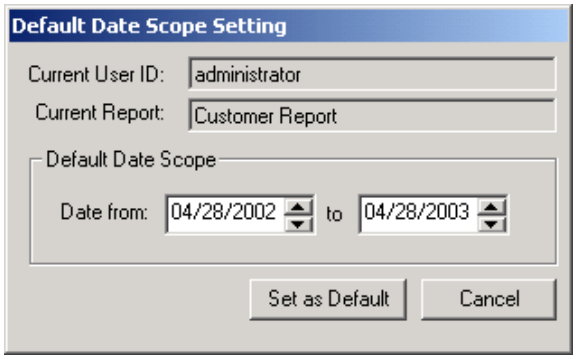
3.8.5 Settings menu

STEP 1 – When a report is opened, a Settings menu automatically appears to the right of the File menu. Open the Settings menu. Refer to Figure 3-36.

Figure 3-36: The Settings menu

STEP 2 – Select Settings | Default Settings | Date Scope. The Default Date Settings window will display. Refer to Figure 3-37.

Figure 3-37: Default date scope setting



Specify a default date range for the reports by selecting a “date from” and “date to” in the spin text boxes.

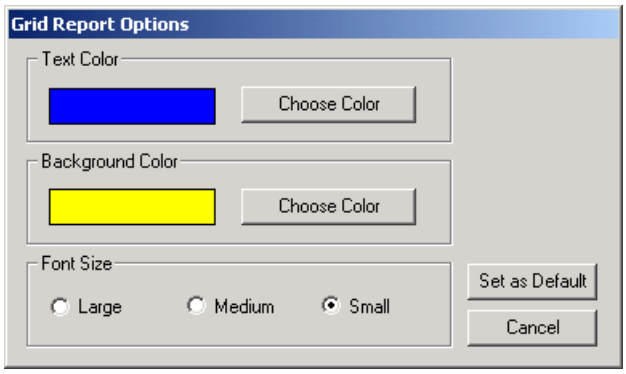
Click the *Set as Default* button to set the date. Now the reports display data based on the default date range.

The reports are loaded automatically in the selected format when Auto Refresh from the Settings menu is selected. The format can be changed by clicking the report style buttons, or by selecting a style from the dropdown list box in the report itself.

STEP 3 – Select Settings | Auto Refresh. The Auto Refresh setting enables the report to be loaded automatically when the report style or date range is changed. This allows data to instantly appear without requiring the user to click the *Refresh* button in the report each time a setting changes. The Auto Refresh setting can be selected or unselected. A check mark appears next to the Auto Refresh setting in the menu if it is active.

STEP 4 – Select Settings | Grid Report Options. The Grid Report Options window will be displayed. Refer to Figure 3-38.

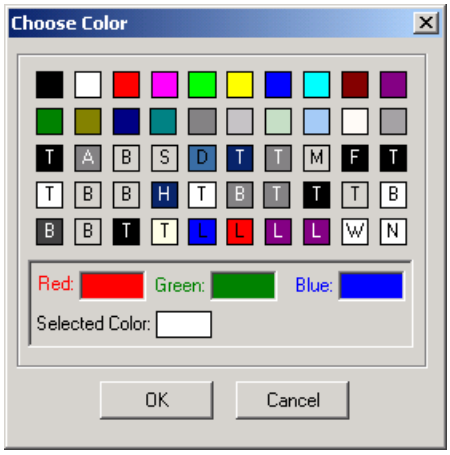
Figure 3-38: Grid Report Options dialog



Grid Report Options allows the user to select the text color, background color, and font size for the grid report style.

Click the *Choose Color* button for text and background color. A Choose Color window is displayed. Refer to Figure 3-39.

Figure 3-39: Choose Color window



Select a color and click *OK*.

Select a font size by clicking on the *Large*, *Medium*, or *Small* radio buttons.

Click the *Set as Default* button to set the selected Grid report settings as default. Now, when a report is displayed in the Grid report style, it will automatically appear with the set text color, background color, and font size.

4 Running Appeon Code Examples

4.1 Overview

The Appeon Code Examples demo provides users with working examples of supported PowerBuilder features that Appeon can move to the Web. This chapter deals with the PowerBuilder version of Appeon Code Examples.

The Appeon Code Examples demo provides two sets of PowerBuilder source code: *appeon_code_examples_js* for the Pure-JavaScript deployment, and *appeon_code_examples_ax* for the Appeon Xcelerator deployment. *Appeon_code_examples_ax* includes all examples of *appeon_code_examples_js*, as well as 37 additional examples.

The Appeon Code Examples demo is divided into six categories: DataWindow, PowerScript, SQL, Standard Controls, User Objects, and N-Tier Support. Each category deals with a number of PowerBuilder or Appeon features. Table 4-1 introduces the central features of, and examples included in, each category.

Table 4-1: Examples in Appeon Code Examples demo

Category	Features	Sub-category / Example
DataWindow	PowerBuilder DataWindow features that Appeon supports.	1. Dot notation 2. EditMask 3. Events and Functions 4. Performance 5. Presentation Styles 6. Retrieval 7. Runtime Modification 8. Updating 9. Object (only available in the Appeon Xcelerator deployment) 10. Runtime Creation (only available in the Appeon Xcelerator deployment) 11. Query Mode (only available in the Appeon Xcelerator deployment)
PowerScript	PowerScript features that Appeon supports.	1. Functions 2. Inheritance 3. Menu Techniques 4. Object Communication 5. DataType (only available in the Appeon Xcelerator deployment) 6. Drag & Drop (only available in the Appeon Xcelerator deployment) 7. MAPI (only available in the Appeon Xcelerator deployment) 8. OLE Object (only available in the Appeon Xcelerator deployment)

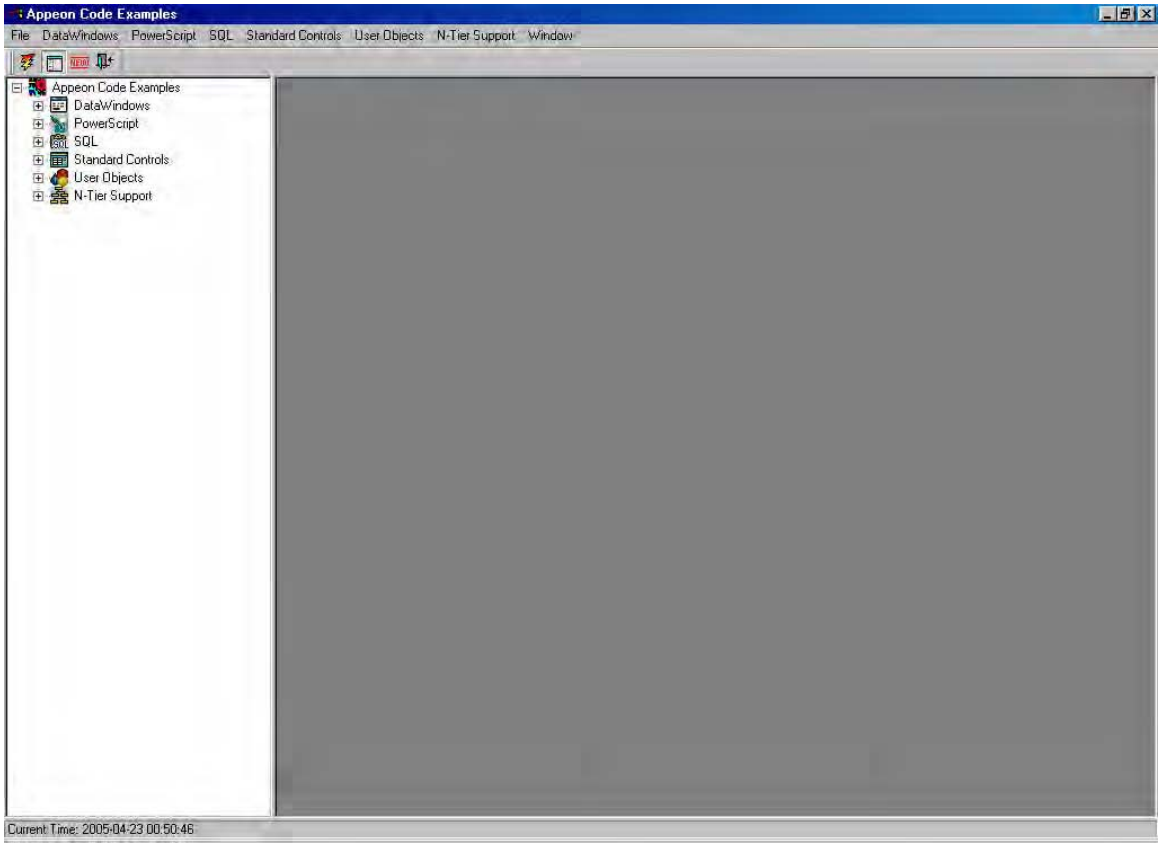
SQL	SQL related functionalities that Appeon supports.	1. Dynamic SQL Format 1 2. Dynamic SQL Format 2 3. Dynamic SQL Format 3 4. Embedded SQL 5. Operating Cursor and Stored Procedure 6. Parse SQL Statement 7. SelectBlob and UpdateBlob 8. Stored Procedure Source DataWindows 9. Update Trigger 10. User-Defined Transaction
Standard Controls	Standard PowerBuilder controls that Appeon supports.	There are 21 examples for the Pure-JavaScript deployment and 31 examples for the Appeon Xcelerator deployment.
User Objects	Use of User objects.	1. Business Class 2. Custom Visual User Objects 3. Dynamic TabPage Objects (only available in the Appeon Xcelerator deployment) 4. Dynamic User Objects (only available in the Appeon Xcelerator deployment) 5. Maintain DataWindow with UserObject 6. Parse SQL Statement 7. Text Style Changer 8. User Objects for Changing Colors
N-Tier Support	Uses N-Tier NVOs to work around unsupported features, or call to other server components.	1. Client Identifier 2. Distributed DataWindow 3. Dynamic SQL Format 4 4. NVO Call DLL 5. NVO Call Other Component 6. System Functions

Examples and screenshots given in the following sections are based on the Appeon Xcelerator deployment. You can also take similar steps to work with the demo in the Pure-JavaScript deployment.

4.2 Run Appeon Code Examples

To run the Appeon Code Examples with the Appeon Xcelerator deployment, click the *Select and Run* button () in the PowerBar and select "appeon_code_examples_ax". Refer to Figure 4-1.

Figure 4-1: Appeon Code Examples main screen



The application has:

- A menu at the top of the window that provides access to different examples and four common actions: execute example, show examples panel, show only new examples, and exit.
- A toolbar directly below the menu that provides icons to the preceding four common actions. Refer to Table 4-2 for more details.
- A TreeView (example panel) on the left that provides a second method for accessing the different examples. To display or hide the TreeView example panel, select or deselect "Show Example Panel" on the Window menu, or click or release the *Show Examples Panel* button on the toolbar.
- An MDIClient object for displaying the current example.
- A MicroHelp that displays the current time in the status bar.

Table 4-2: Application menu and toolbar

Common Action	Toolbar Icon	Description
File | Execute Example		Executes the current example on the Examples Panel. To run an example, the user can double-click the example on the panel or select the example from the menu. If the example panel does not display or there is no current example, clicking the icon has no effect.
File | Exit		Closes the application and returns to the PowerBuilder IDE.

Window | Show Examples Panel		By default, this option is enabled and the Examples Panel displays. There are six example categories provided: DataWindow, PowerScript, SQL, Standard Controls, User Object, and N-Tier Support. If you un-check the option, the Examples Panel does not display and you can only run an example by selecting it from the menu.
Window | Only Show New Features		By default, this option is disabled. All available code examples in the demo are displayed on the Examples Panel. If you enable the option, the displaying examples are the newly added examples into Appeon 3.1 for PowerBuilder.

4.3 DataWindow

There are 11 sub-categories of DataWindow code examples. You can view all sub-category items by expanding the DataWindow item in the Examples Panel or by clicking the DataWindow menu. The sub-categories are:

- Dot Notation – demonstrates use of dot notation to copy between DataWindows or to change the properties of a DataWindow control.
- EditMask – demonstrates support for DataWindow EditMask.
- Events and Functions – demonstrates the key events and functions Appeon supports.
- Performance – tests the speed when retrieving large amounts of data.
- Presentation Styles – demonstrates DataWindow presentation styles that Appeon supports.
- Retrieval – demonstrates different retrieve cases in which the data source is a stored procedure, there are different DataWindow bands, or a DataWindow has computed columns, etc.
- Runtime Modification – demonstrates how to dynamically change to properties, data, and/or the presentation style of a DataWindow.
- Updating – demonstrates how to maintain DataWindows using User Objects or DataWindow buttons, and how to update DataWindows that have computed columns, an SQL server Text data type, or a customized error message.
- Object – showcases DataWindow objects that Appeon supports.
- Runtime Creation – demonstrates how to dynamically create a DataWindow using SQL or DataWindow syntax.
- Query Mode – demonstrates how to retrieve or sort data using the QueryMode and QuerySort properties.

The Object, Runtime Creation and Query Mode sub-categories show the newly supported features in Appeon 3.1 for PowerBuilder. Details on how to run these examples are not given in the following sections, however, you also can run the examples easily by performing similar steps as shown in other sub-categories.

4.3.1 Dot Notation

There are two examples provided to demonstrate the Dot Notation feature.

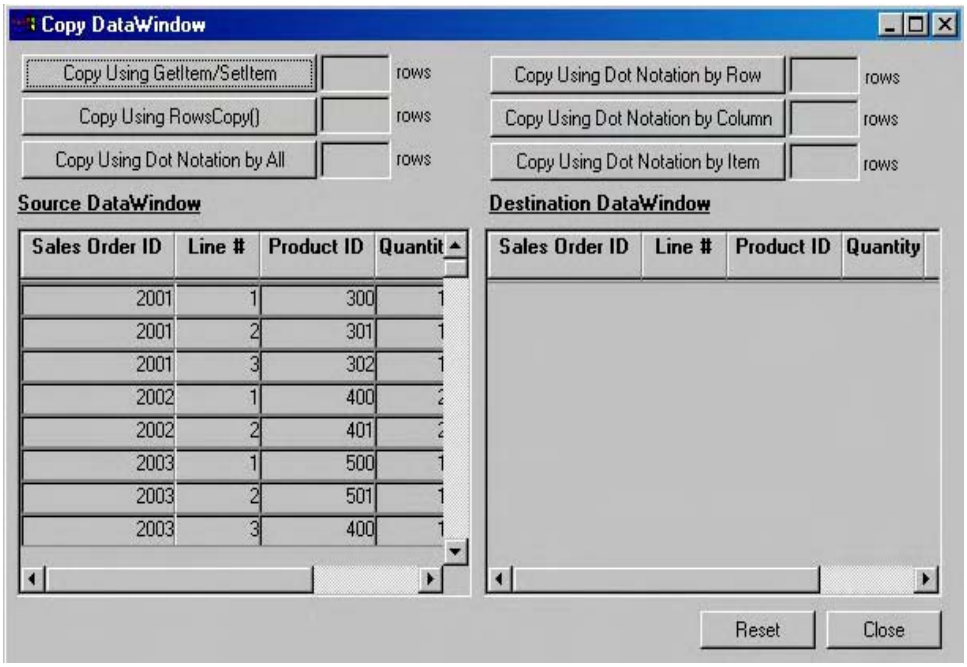
This section explains how to work with the "Copy DataWindow" example. Perform the following steps to test it. You can also run the other examples by performing similar steps.

To run the "Copy DataWindow" example:

STEP 1 – Click the plus sign next to Dot Notation in the Examples Panel. The sub-category is expanded and the titles of the examples are displayed. Double-click "Copy DataWindow" to run the example.

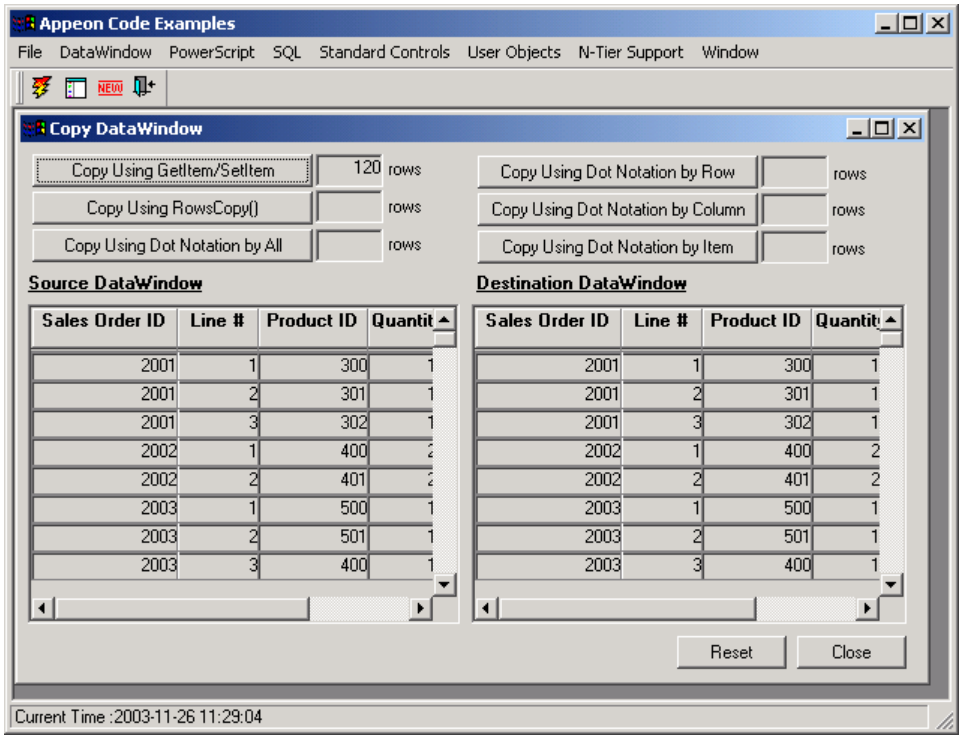
You can also run the example by selecting DataWindow | Dot Notation | Copy DataWindow. Refer to Figure 4-2.

Figure 4-2: The Copy DataWindow example



STEP 2 – By clicking the *Copy Using …* button (for example, *Copy Using GetItem/SetItem*), data in the source DataWindow is copied into the destination DataWindow. Refer to Figure 4-3.

Figure 4-3: Data copied from the source DataWindow to the destination DataWindow



STEP 3 – There are six copying methods provided in the example. If you want to try another method, click the *Reset* button first and then click another *Copy Using …* button.

The window object in the example is w_dw_copy. The primary (not complete) syntaxes in the Clicked event of the buttons are shown in the following Table 4-3.

Table 4-3: Six copying methods

Button	In the Clicked event of the control…
Copy Using GetItem/SetItem	li_Data = dw_source.GetItemNumber(ll_Cnt, "id") dw_dest.SetItem(ll_New, "id", li_Data) ……
Copy Using RowsCopy()	dw_source.RowsCopy(1, il_Rows, Primary!, dw_dest, 1, Primary!)
Copy Using Dot Notation by All	dw_dest.object.data = dw_source.object.date
Copy Using Dot Notation by Row	For ll_Cnt = 1 To il_Rows dw_dest.object.data[ll_cnt] = dw_source.object.data[ll_cnt] …… Next
Copy Using Dot Notation by Column	dw_dest.object.id[1,il_rows] = dw_source.object.id[1,il_rows] dw_dest.object.line_id[1,il_rows] = dw_source.object.line_id[1,il_rows] …
Copy Using Dot Notation by Item	For ll_Cnt = 1 To il_Rows dw_dest.object.id[ll_cnt] = dw_source.object.id[ll_cnt] … Next

4.3.2 EditMask

There is one example provided to demonstrate the EditMask feature - DataWindow EditMask.

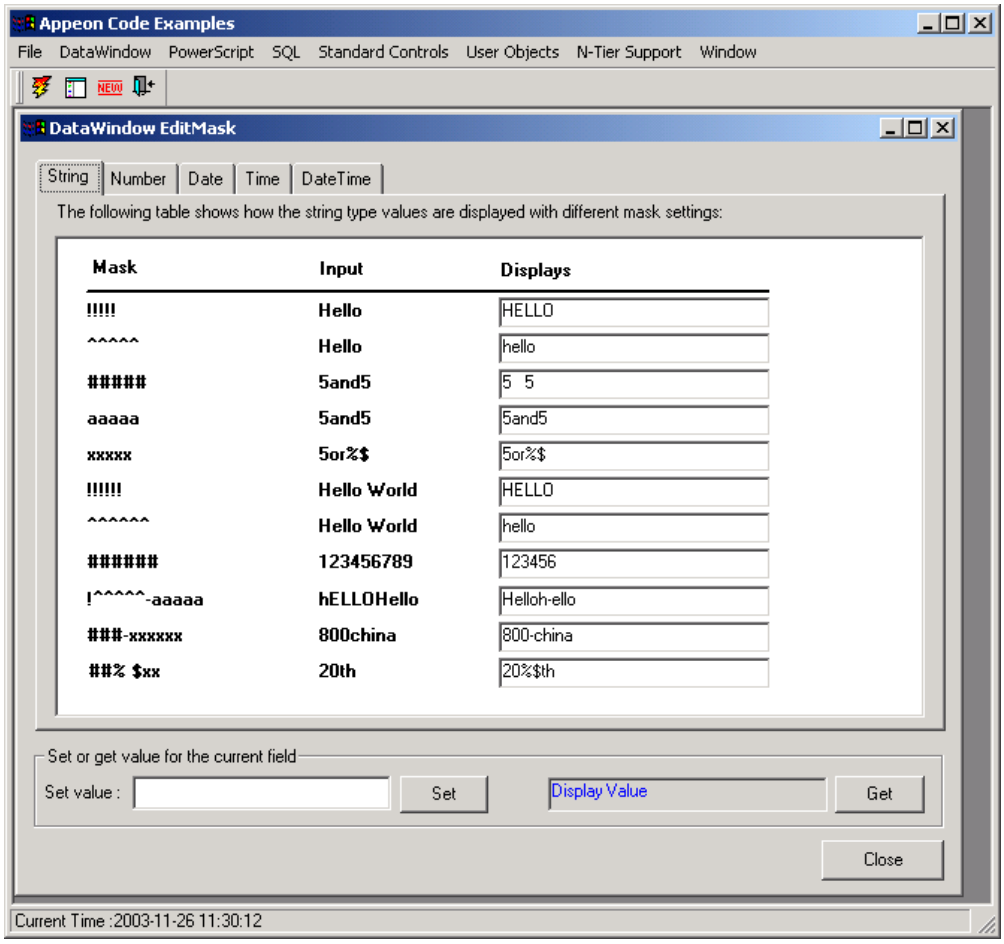
Perform the following steps to run it:

STEP 1 – Click the plus sign next to EditMask in the Examples Panel. The sub-category is expanded and the "DataWindow EditMask" example is displayed. Double-click the example title to run the example.

You can also run the example by selecting DataWindow | EditMask | DataWindow EditMask.

STEP 2 – Click the String tab. The table illustrates how a string typed into the "Set value" text box is displayed once the mask is applied. Set the cursor in any text box in the Displays section. Type any value in the "Set value" text box and click the *Set* button. The value entered in the "Set value" text box appears in the Displays text box with the appropriate mask applied. Refer to Figure 4-4.

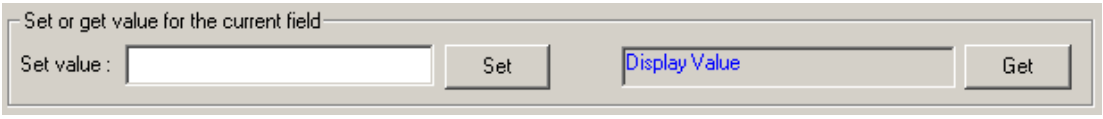
Figure 4-4: DataWindow EditMask example (String mask)



In this example, "test" is entered in the "Set value" text box and the focus is on the first text box that is using the "!!!!!" mask in the Display section. The string will appear in all caps: "TEST".

STEP 3 – Click the *Get* button to retrieve the value from the text box of the "!!!!!" Display column. Refer to Figure 4-5.

Figure 4-5: Set or get mask value



STEP 4 – Click the Number tab. The functionality in this tab is similar to that in the String tab. Enter a number in the "Set value" text box and set the cursor in any of the Display text boxes. Click the *Set* button and the value entered in the "Set value" text box appears in the text box that has focus and the appropriate mask is applied. Click the *Get* button to get the value from the Display text box.

STEP 5 – Click the Date tab and enter a date in the "Set value" text box. Set the cursor in any of the Displays text boxes and click the *Set* button to display the date in the appropriate Displays text box with the correct Mask. Click the *Get* button to retrieve the value from the Display text box.

STEP 6 – The Time tab and the DateTime tab work in the same way as the Date tab. The difference is that the mask data type is time, datetime, or date.

4.3.3 Events & Functions

There are 17 examples provided to demonstrate the DataWindow events & functions features.

This section shows how to work with the "Copy, Move, and Discard DataWindow Rows" example. Perform the following steps to test this example. You can also run the other examples by performing similar steps.

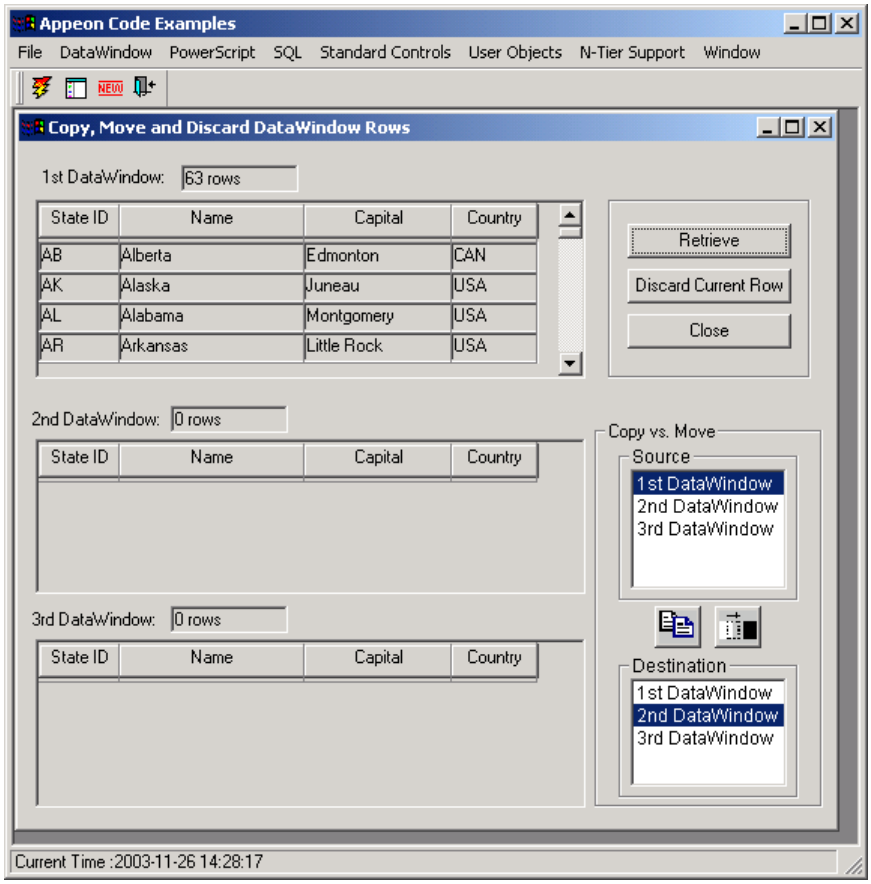
To run the "Copy, Move, and Discard DataWindow Rows" example:

STEP 1 – Click the plus sign next to the Events & Functions in the Examples Panel. The sub-category is expanded and the titles of the examples are displayed. Double-click "Copy, Move, and Discard DataWindow Rows" to run the example.

You can also run the example by selecting DataWindow | Events & Functions | Copy, Move, and Discard DataWindow Rows.

STEP 2 – Retrieve data into the first DataWindow by clicking the *Retrieve* button. Refer to Figure 4-6.

Figure 4-6: Copy, Move and Discard DataWindow Rows



STEP 3 – The *Discard Current Row* button is for discarding the current row in the first DataWindow. By default, the first row is the current row. You can also make a row the current row by clicking the row.

The window object in the example is w_dw_rows, and the function in the Clicked event of the *Discard Current Row* button is RowsDiscard.

STEP 4 – In the Copy vs. Move group box, select a source DataWindow and a destination DataWindow. The source DataWindow must have data in it, and the destination DataWindow must be a different window from the source DataWindow.

STEP 5 – Click the *Copy* () button and the current row in the source DataWindow is copied into the destination DataWindow (both the source DataWindow and the destination DataWindow are contained in the row).

The function in the Clicked event of the *Copy* button is wf_copy_row. The function applies two DataWindow functions: RowsCopy and RowCount.

STEP 6 – Click the *Move* () button and the current row in the source DataWindow is moved into the destination DataWindow (only the destination DataWindow has the current row).

The function in the Clicked event of the *Move* button is wf_move_row. The function applies two DataWindow functions: RowsMove and RowCount.

4.3.4 Performance

There is one example for the Performance sub-category - 9K Records DataWindow.

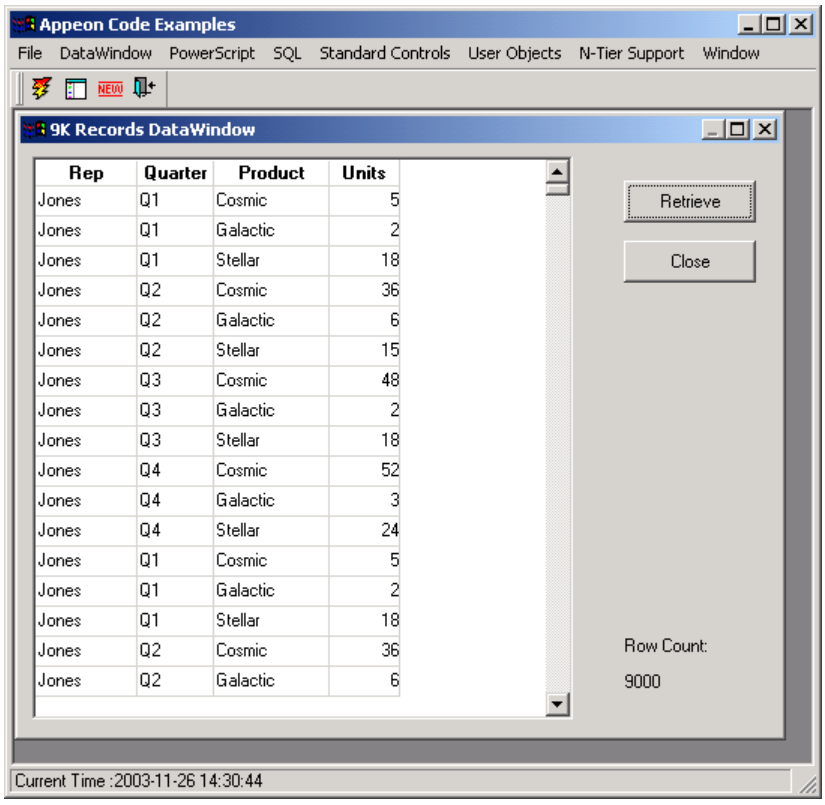
Perform the following steps to run it:

STEP 1 – Click the plus sign next to the Performance in the Examples Panel. The sub-category is expanded and the "Copy DataWindow" example is displayed. Double-click the example title to run it.

You can also run it by selecting DataWindow | Performance | 9K Records DataWindow.

STEP 2 – On a click of the *Retrieve* button, up to 9000 records are retrieved into the DataWindow in one second. Refer to Figure 4-7.

Figure 4-7: Retrieve 9k rows of data into DataWindow



The window object in the example is w_9k. The function in the Clicked event of the *Retrieve* button is dw_1.retrieve().

4.3.5 Presentation styles

There are nine examples provided to demonstrate nine DataWindow presentation styles.

This section uses "Group DataWindow" to show how to work with the examples. Perform the following steps to test the example. You can also run the other examples by performing similar steps.

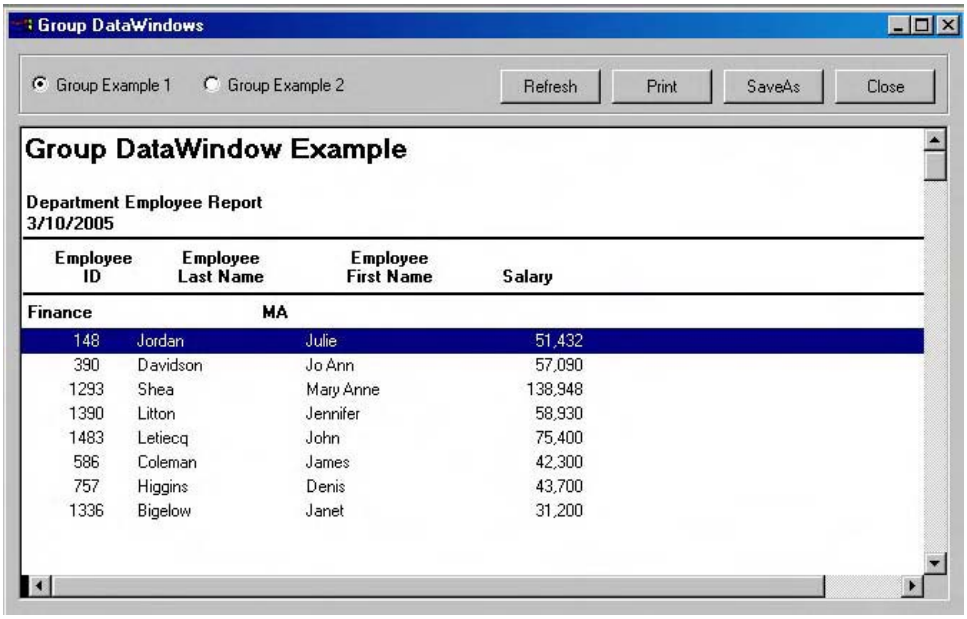
To run the "Group DataWindow" example:

STEP 1 – Click the plus sign next to the Presentation Styles in the example panel. The sub-category is expanded and the titles of the examples are displayed. Double-click the "Group DataWindow" example to run it.

You can also run it by selecting DataWindow | Presentation Styles | Group DataWindow.

STEP 2 – Select one of the Group Examples (for example, Group Example 1) and Group Example 1 is displayed as shown in Figure 4-8.

Figure 4-8: Group DataWindow example



STEP 3 – Click the *Print* button to print the DataWindow in PDF, or click the *SaveAs* button to save the DataWindow.

The window object in the example is w_dwstyle_group.

4.3.6 Retrieval

There are ten examples provided to demonstrate the DataWindow retrieval features.

This section uses “Stored Procedure Source DataWindows” to show how to work with the examples. Follow the instructions and test the example. You can also run the other examples by performing similar steps.

To run the “Stored Procedure Source DataWindows” example:

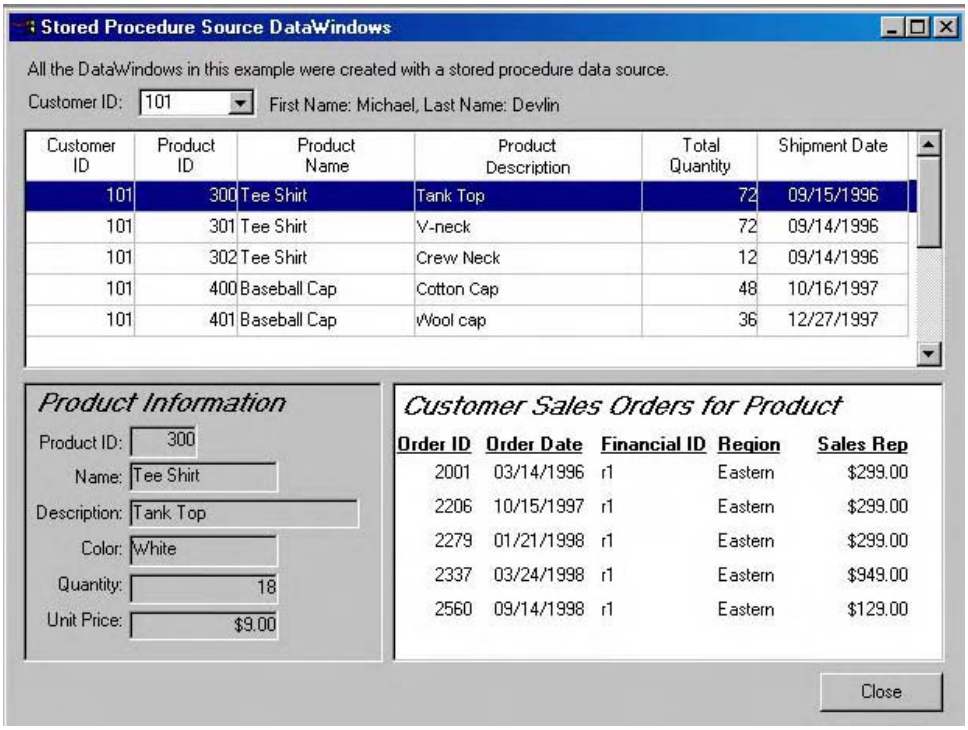
STEP 1 – Click the plus sign next to Retrieval in the Examples Panel. The sub-category is expanded and the examples are displayed. Double-click “Stored Procedure Source DataWindows” to run this example.

You can also run it by selecting DataWindow | Retrieval | Stored Procedure Source DataWindows.

STEP 2 – Select a customer ID from the DropDownListBox.

By selecting the customer ID, you are entering the retrieval argument for the DataWindow stored procedure. As a result, the DataWindows retrieve data. Refer to Figure 4-9.

Figure 4-9: Stored Procedure Source DataWindows



The window object in the example is w_dw_stored_proc. There are three DataWindows in the window. The one at the top is the Master DataWindow, which displays products that the customer has ordered. The Product Information DataWindow displays information about the current product in the Master DataWindow. The Customer Sales Orders for Product DataWindow displays related order information.

4.3.7 Runtime modification

There are eleven examples provided to demonstrate runtime modification features.

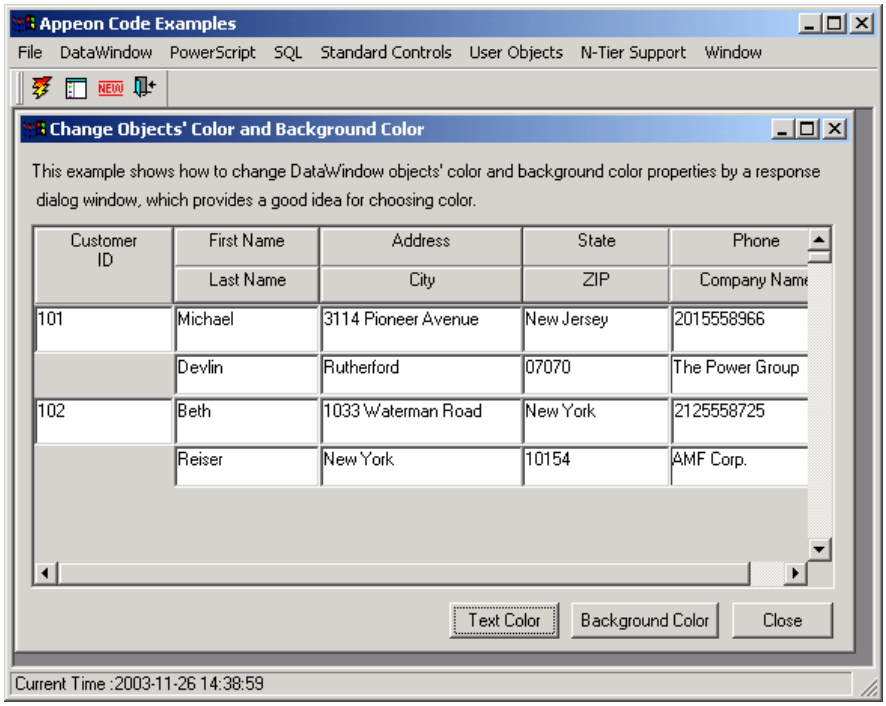
This section explains how to work with the "Change Object's Color and Background Color" example. Perform the following steps to test it. You can also run the other examples by performing similar steps.

To run the "Change Object's Color and Background Color" example:

STEP 1 – Click the plus sign next to Runtime Modification in the Examples Panel. The sub-category is expanded and the examples are displayed. Double-click "Change Object's Color and Background Color" to run this example.

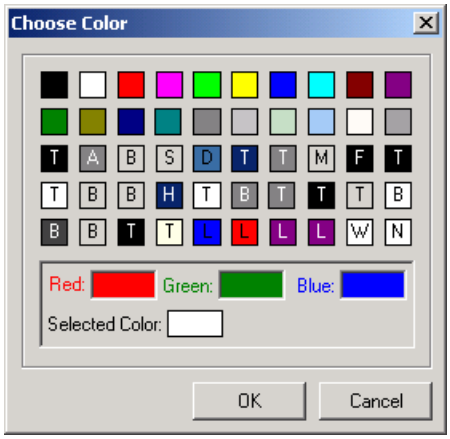
You can also run it by selecting DataWindow | Runtime Modification | Change Object's Color and Background Color. Refer to Figure 4-10.

Figure 4-10: The Change Object's Color and Background Color example



STEP 2 – Click the *Text Color* button and a Choose Color dialog box displays. Refer to Figure 4-11.

Figure 4-11: Choose Color dialog box



STEP 3 – Select a color and click *OK*.

The window object for Choose Color is w_choose_color. When you click *OK*, the parameter is returned to the main window w_dw_changecolor through the syntax closewithreturn (parent,string(il_SelectedColor)). The main window gets the parameter through the syntax ls_Ret = message.stringparm. The DataWindow text is then displayed in the selected color.

STEP 4 – Click the *Background Color* button and the same Choose Color dialog displays.

STEP 5 – Select a color and then click *OK*. The selected background color appears.

4.3.8 Updating

There are eight examples provided to demonstrate the updating functionality.

This section shows how to work with the "Change Employee Salary" example. Perform the following steps to test it. You can also run the other examples by performing similar steps.

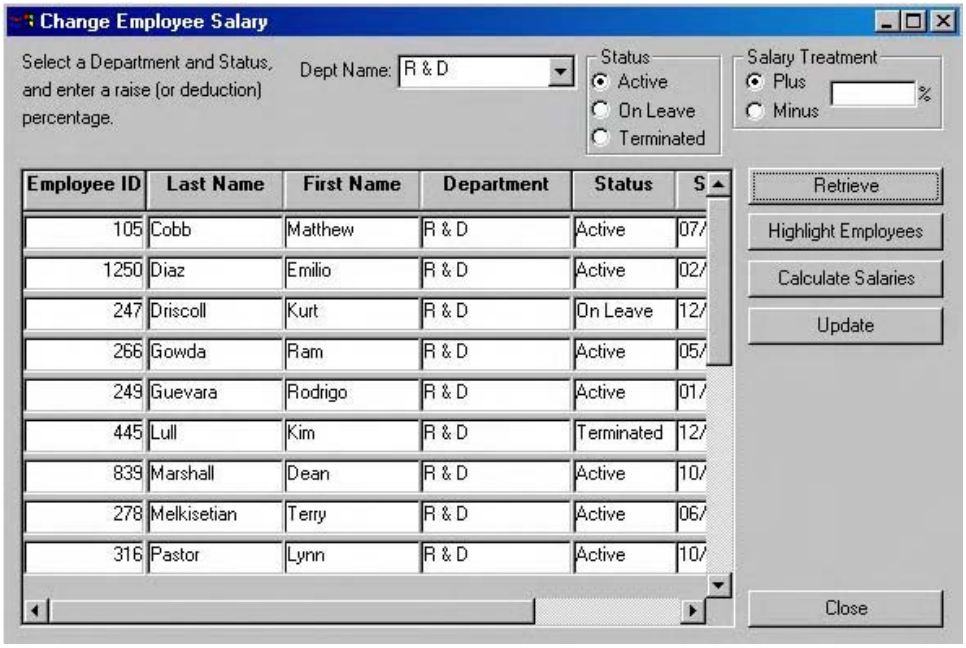
To run the "Change Employee Salary" example:

STEP 1 – Click the plus sign next to Updating in the Examples Panel. The sub-category is expanded and the examples are displayed. Double-click "Change Employee Salary" to run this example.

You can also run it by selecting DataWindow | Updating | Change Employee Salary.

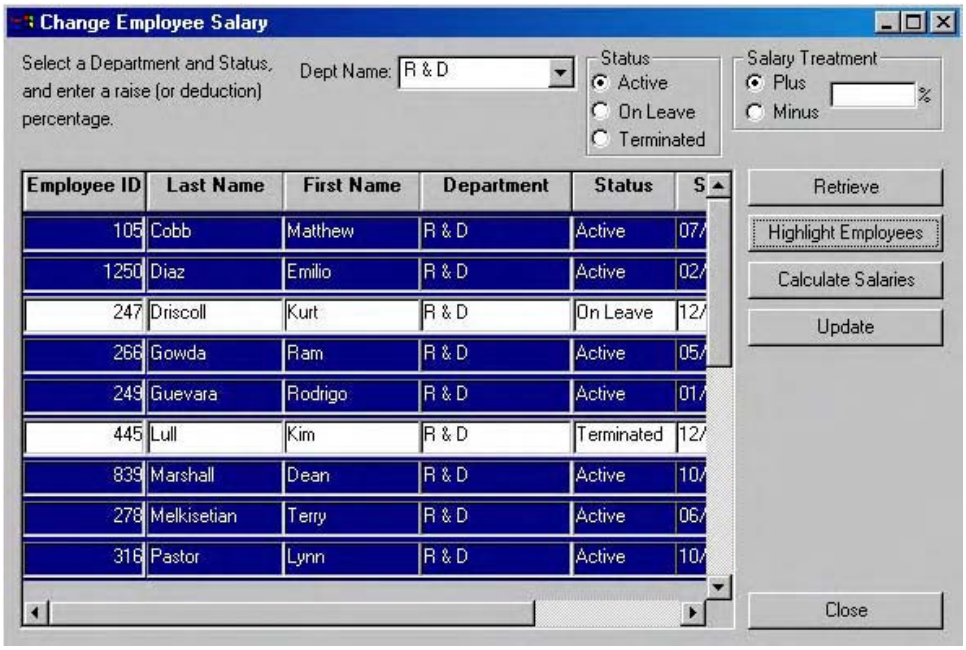
STEP 2 – Click the *Retrieve* button to retrieve data into the DataWindow. Refer to Figure 4-12.

Figure 4-12: The Change Employee Salary example



STEP 3 – Click the *Highlight Employee* button and the employees with "Active" status checked will be highlighted. Refer to Figure 4-13.

Figure 4-13: Highlight active employees



STEP 4 – You can increase or decrease the salaries of the highlighted employees by specifying the plus or minus percentage and clicking the *Calculate Salaries* button.

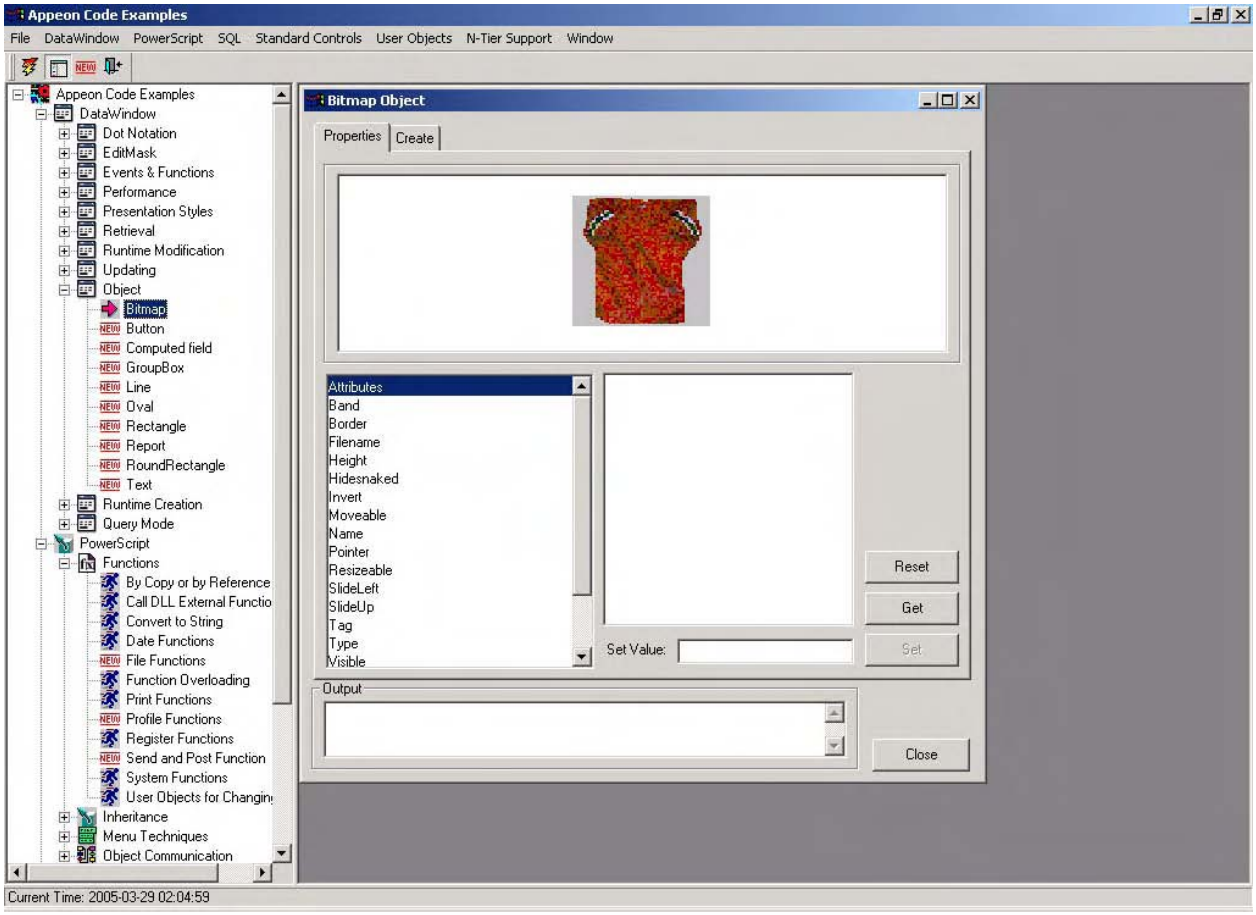
STEP 5 – The salary changes do not take effect until you click the *Update* button.

The window object in this example is w_salary_admin. The syntax for update is dw_employees.Update().

4.3.9 Object

Ten examples are given to showcase the properties for the following DataWindow objects respectively, and how to create them: Bitmap, Button, Computed Field, GroupBox, Line, Oval, Rectangle, Report, RoundRectangle and Text. Refer to Figure 4-14.

Figure 4-14: Object sub-category

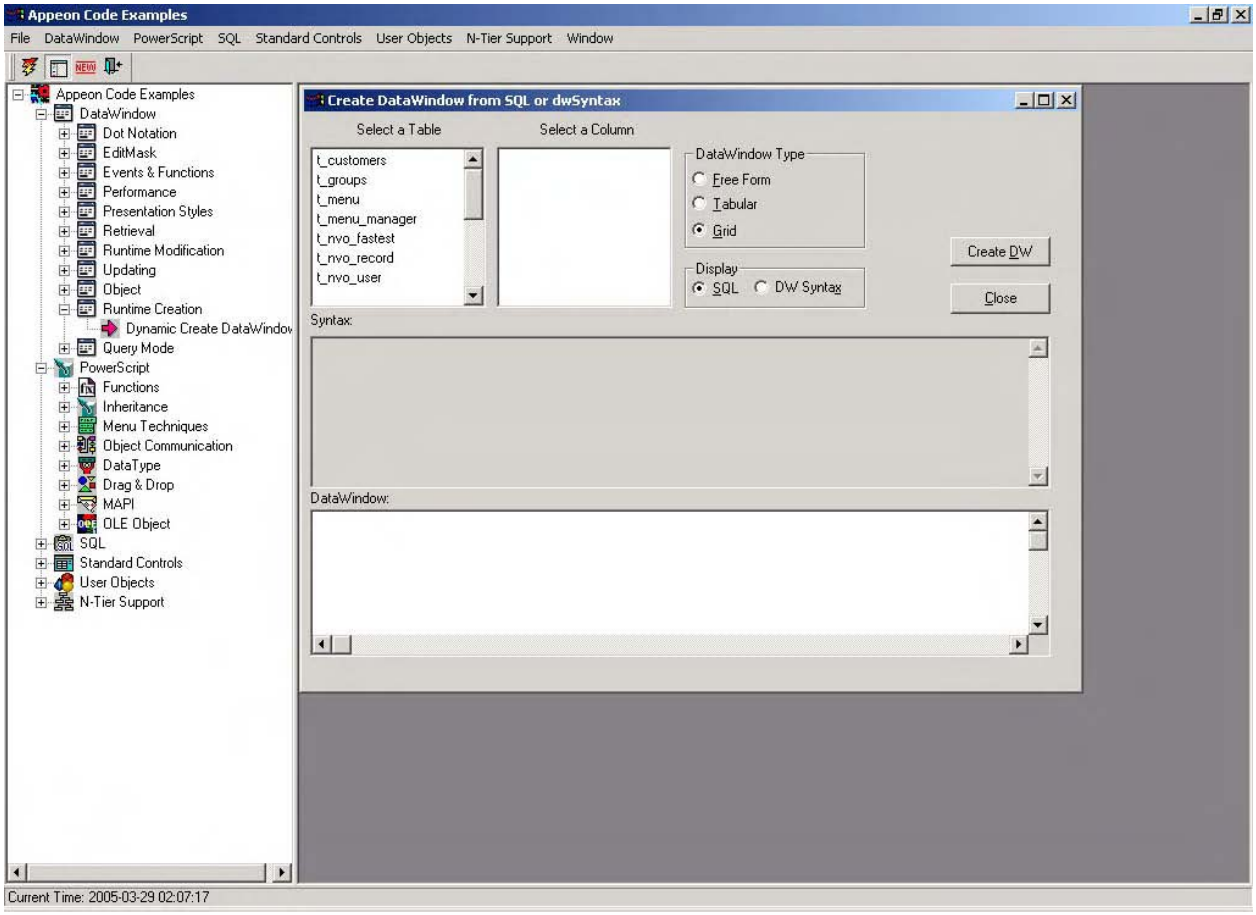


Details on how to run these examples are not given in this section, however, you also can run the examples easily by performing similar steps as shown in other sub-categories.

4.3.10 Runtime Creation

There is one example for the Runtime Creation sub-category: Dynamic Create DataWindow, which shows how to dynamically create a DataWindow using SQL or DataWindow syntax. Refer to Figure 4-15.

Figure 4-15: Runtime Creation sub-category

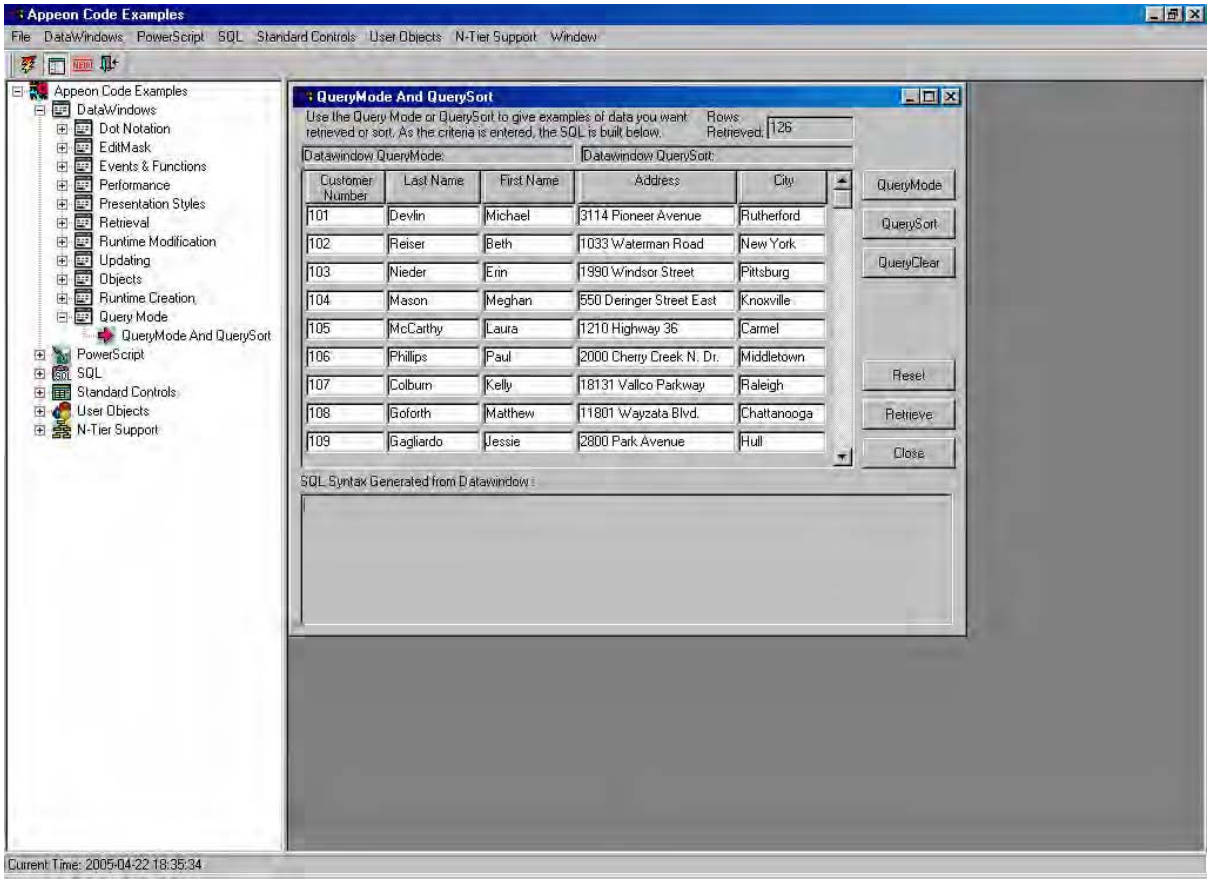


Details on how to run this example are not given in this section, however, you also can run the example easily by performing similar steps as shown in other sub-categories.

4.3.11 Query Mode

There is one example for the Runtime Creation sub-category: QueryMode And QuerySort, which shows how to retrieve and sort data using the QueryMode and QuerySort properties. Refer to Figure 4-16.

Figure 4-16: Query Mode sub-category



Details on how to run this example are not given in this section, however, you also can run the example easily by performing similar steps as shown in other sub-categories.

4.4 PowerScript

There are eight sub-categories of DataWindow code examples. You can view all the sub-category items by expanding the PowerScript item in the Examples Panel or by clicking the PowerScript menu.

The sub-categories are:

- Functions – demonstrates how the Date functions, String functions, system functions, overloading functions, and functions in a UserObject are executed.
- Inheritance – demonstrates the inherited business rule, the inherited DataWindow, and the inherited UserObject.
- Menu Techniques – demonstrates the new feature of dynamically changing menus.
- Object Communication – demonstrates how to pass parameters between different controls and different windows/DataWindows.
- DataType – demonstrates how to work with the Blob data type and the Blob functions.
- Drag & Drop – demonstrates how to the Drag & Drop feature works.
- MAPI – demonstrates how to use the mailMessage object.

- OLE Object – demonstrates how to work with the OLE object.

The DataType, Drag & Drop, MAPI, and OLE Object sub-categories show the newly supported features in Appeon 3.1 for PowerBuilder. Details on how to run these examples are not given in the following sections, however, you also can run the examples easily by performing similar steps as shown in other sub-categories.

4.4.1 Functions

There are 12 examples provided to demonstrate the functions Appeon supports.

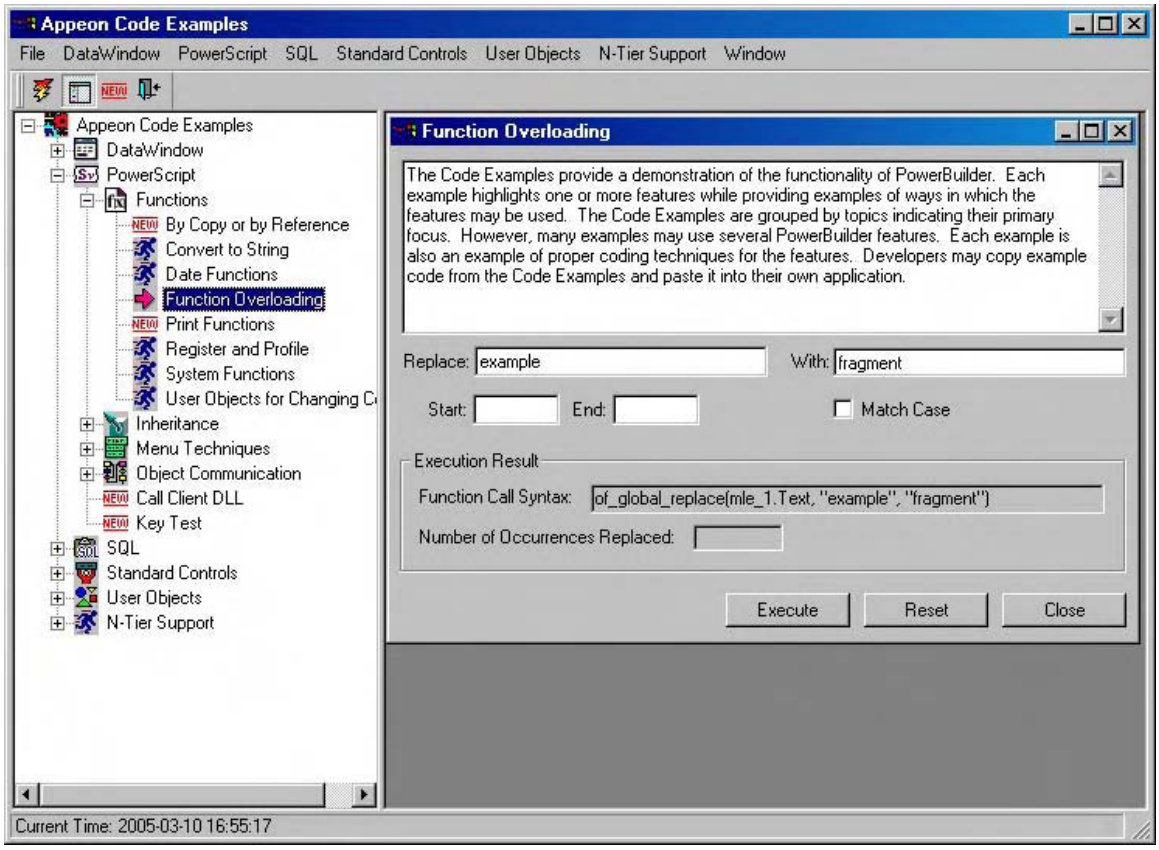
This section explains how to work with the "Function Overloading" example. Perform the following steps to test it. You can also run the other examples by performing similar steps.

To run the "Function Overloading" example:

STEP 1 – Click the plus sign next to Functions in the Examples Panel. The sub-category is expanded and the titles of the examples are displayed. Double-click "Function Overloading" to run this example.

You can also run it by selecting PowerScript | Functions | Function Overloading. Refer to Figure 4-17.

Figure 4-17: The Function Overloading example



STEP 2 – Specify arguments (replace criteria) for the function of_global_replace in the fields.

STEP 3 – Click the *Execute* button.

The window object in this example is w_global_replace. As shown in the Clicked event of the *Execute* button, the Clicked event calls one of the following three functions according to the specified replacement criteria:

li_Cnt = of_global_replace(ls_text, ls_old, ls_new) //parent function

li_Cnt = of_global_replace(ls_text, ls_old, ls_new, True) //overloading function 1

li_Cnt = of_global_replace(ls_text, ls_old, ls_new, lb_case, ldb_Start, ldb_End)

The text in the MultiLineEdit control is changed according to the replaced criteria.

4.4.2 Inheritance

There are three examples provided to demonstrate the inheritance feature.

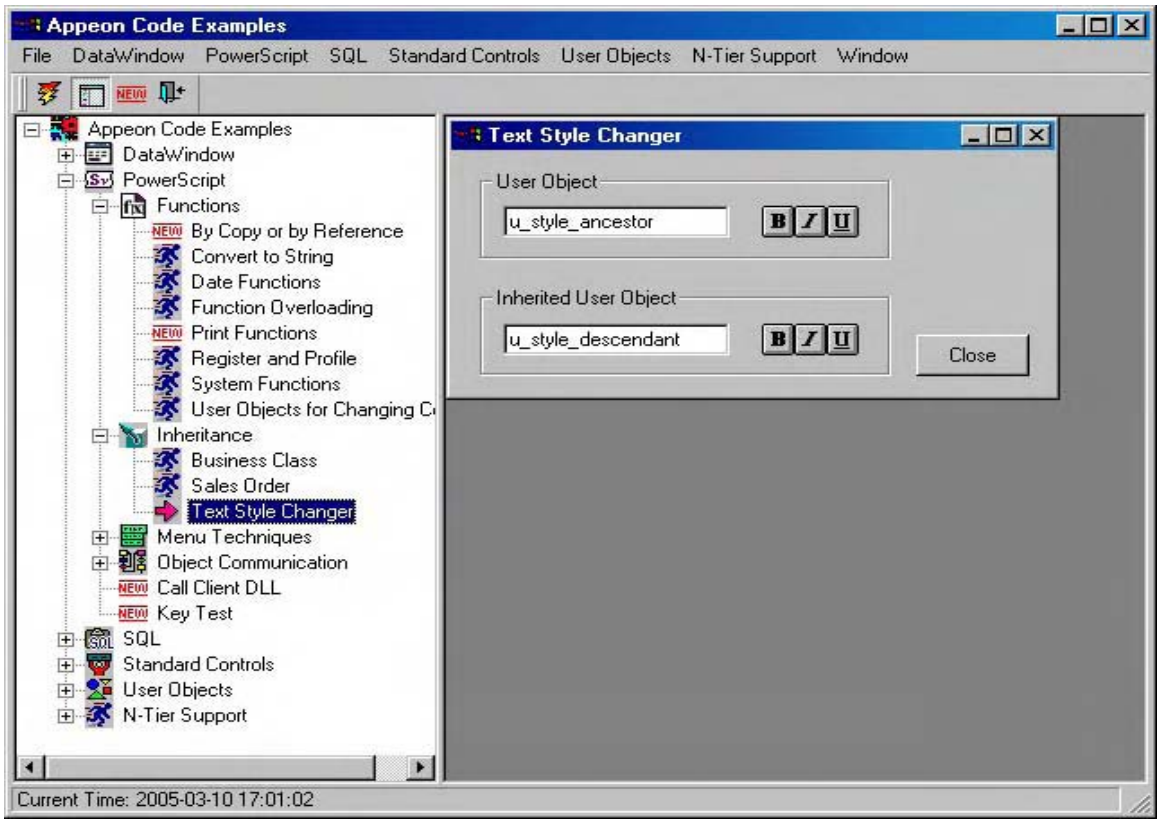
This section shows how to work with the "Text Style Changer" example. Perform the following steps to test the example. You can also run the other examples by performing similar steps.

To run the "Text Style Changer" example:

STEP 1 – Click the plus sign next to Inheritance in the Examples Panel. The sub-category is expanded and the titles of the examples are displayed. Double-click "Text Style Changer" to run this example.

You can also run it by selecting PowerScript | Inheritance | Text Style Changer. Refer to Figure 4-18.

Figure 4-18: The Text Style Changer example



STEP 2 – Click the *Bold*, *Italic* and *Underline* buttons in the User Object group box. The text style in the group box is changed accordingly.

STEP 3 – Click the *Bold* button in the Inherited User Object group box. Instead of the text changing to bold, the text changes to "bold not allowed" because the child user object overloads the logic in the parent user object.

By clicking the *Italic* or *Underline* button in the Inherited User Object group box, different behavior occurs in the text box than occurs in the User Object group box. The window object in this example is w_style_uos. In the two group boxes, there are two user objects - u_style_ancestor and u_style_descendent. U_style_descendent is inherited from the u_style_ancestor object.

4.4.3 Menu Techniques

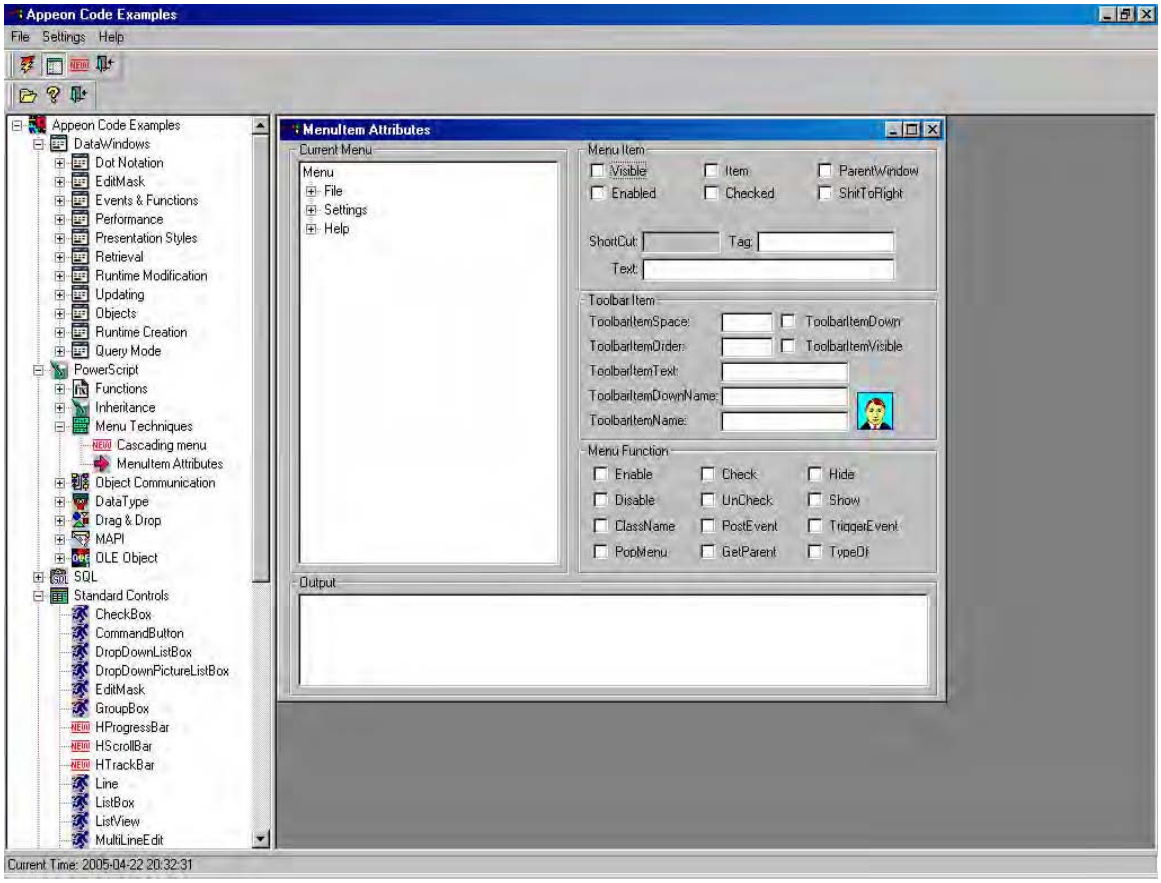
There are two examples for the Menu Techniques: “Cascading menu”, and “MenuItem Attributes”. This section shows how to work with the “MenuItem Attributes” example. Perform the following steps to test the example. You can also run the other example by performing similar steps.

To run the “MenuItem Attributes” example:

STEP 1 – Click the plus sign next to Menu Techniques in the Examples Panel. The sub-category is expanded and the “MenuItem Attributes” example is displayed. Double-click the example title to run it.

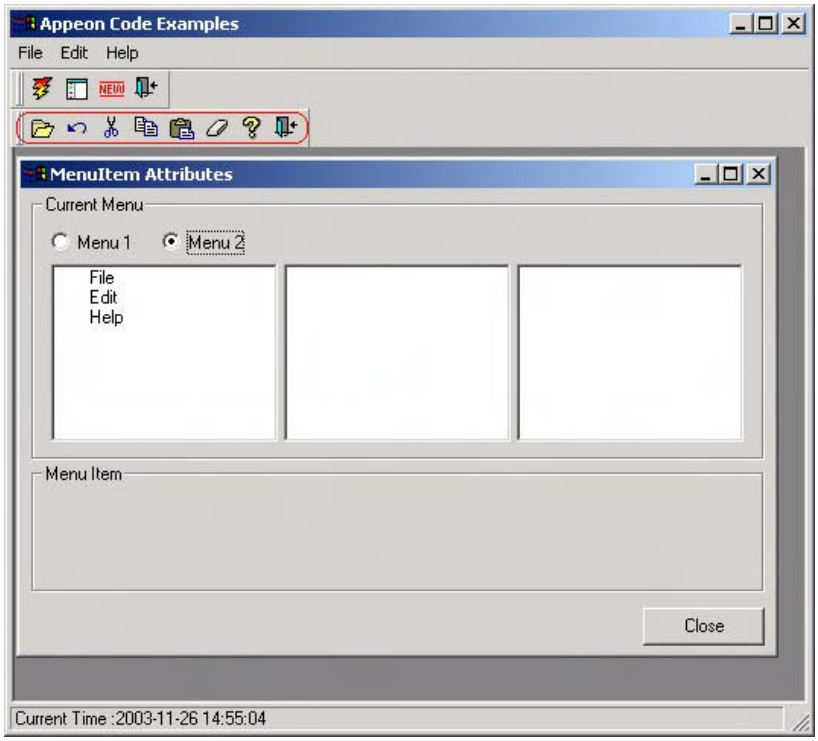
You can also run it by selecting the PowerScript | Menu Techniques | MenuItem Attributes menu item. Refer to Figure 4-19.

Figure 4-19: The MenuItem Attributes example



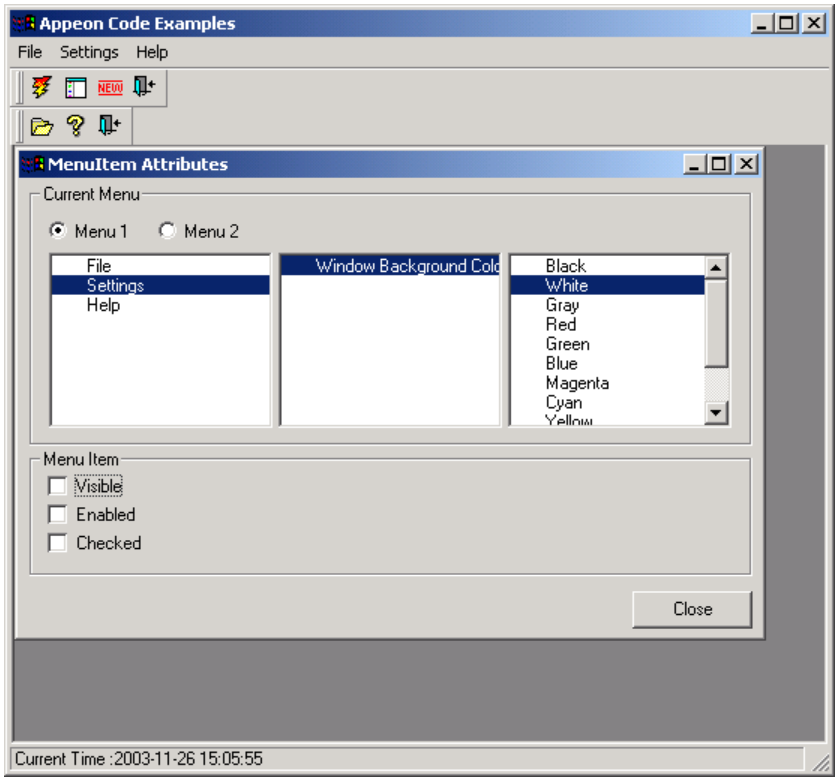
STEP 2 – You may find that the menu in the Appeon Code Examples window application has already changed. If you click the Menu 2 radio button, the menu of the application will change again. Refer to Figure 4-20.

Figure 4-20: Dynamic changing toolbar



STEP 3 – Select an item and change its attributes. Refer to Figure 4-21.

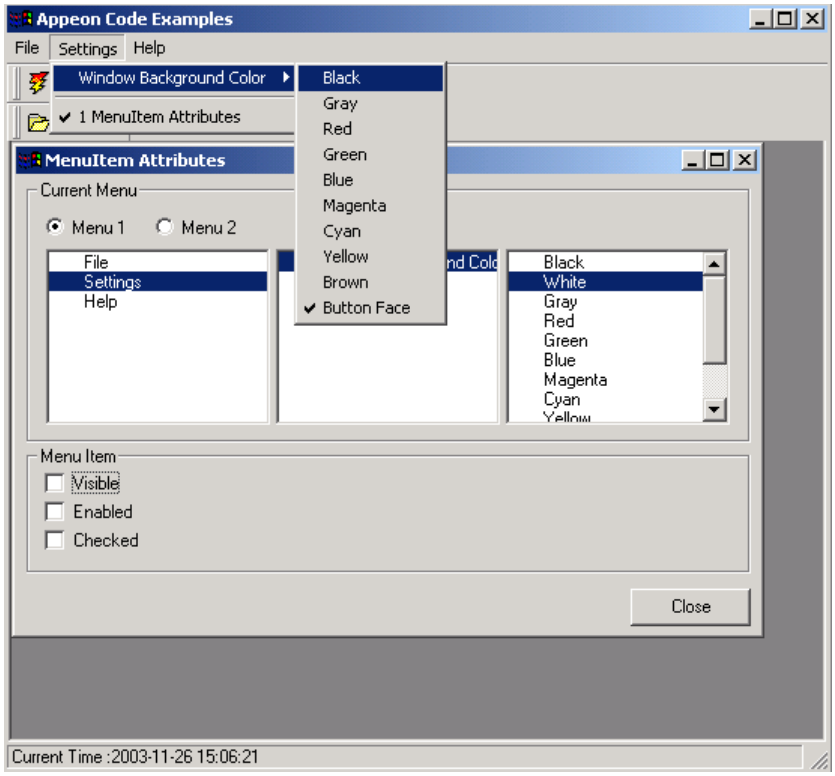
Figure 4-21: Change the attribute of a menu item



The properties in the Settings | Window Background Color | White menu item are changed to invisible, disabled, and unchecked.

STEP 4 – Go to the Settings | Window Background Color menu. The White menu item disappears (because it is invisible on the menu). Refer to Figure 4-22.

Figure 4-22: Hide the "White" menu item



The window object in this example is w_menu_functions. The syntax in the Clicked event of the Menu 1 radio button is *parent.ChangeMenu(m_menu_functions_main)*. The menu of the application can be dynamically changed.

4.4.4 Object Communication

There are five examples provided to demonstrate the Object Communication functionality.

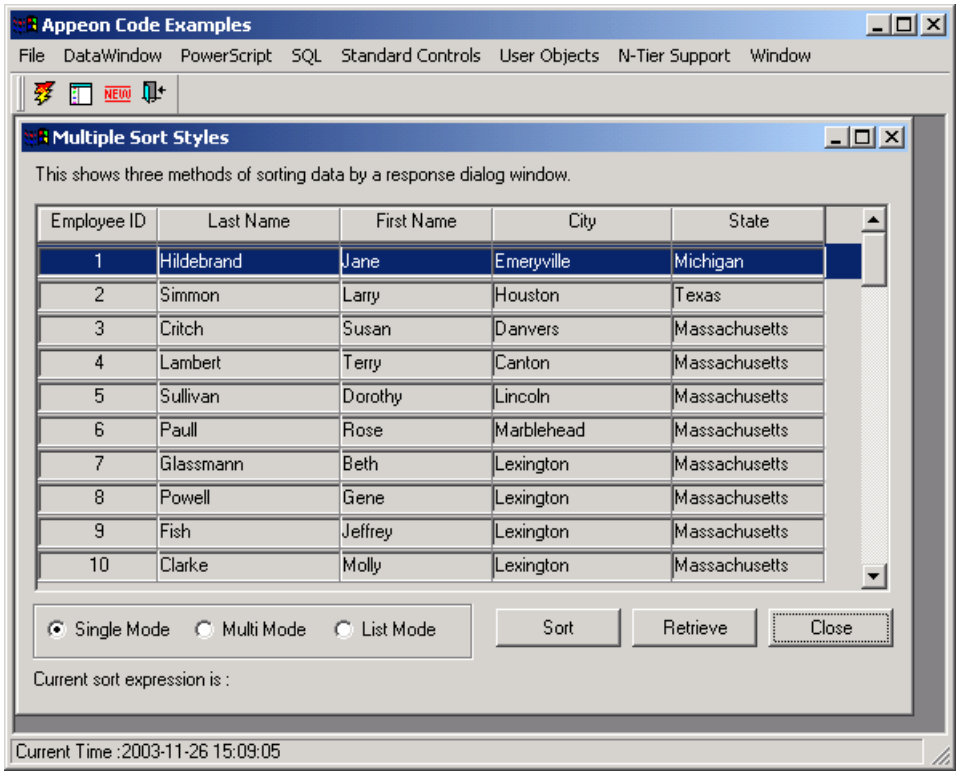
This section explains how to work with the "Multi-Style Sort" example. Perform the following steps to test the example. You can also run the other examples by performing similar steps.

To run the "Object Communication" example:

STEP 1 – Click the plus sign next to Object Communication in the Examples Panel. The sub-category is expanded and the titles of the examples are displayed. Double-click "Multi-Style Sort" to run this example.

You can also run it by selecting PowerScript | Object Communication | Multi-Style Sort. Refer to Figure 4-23.

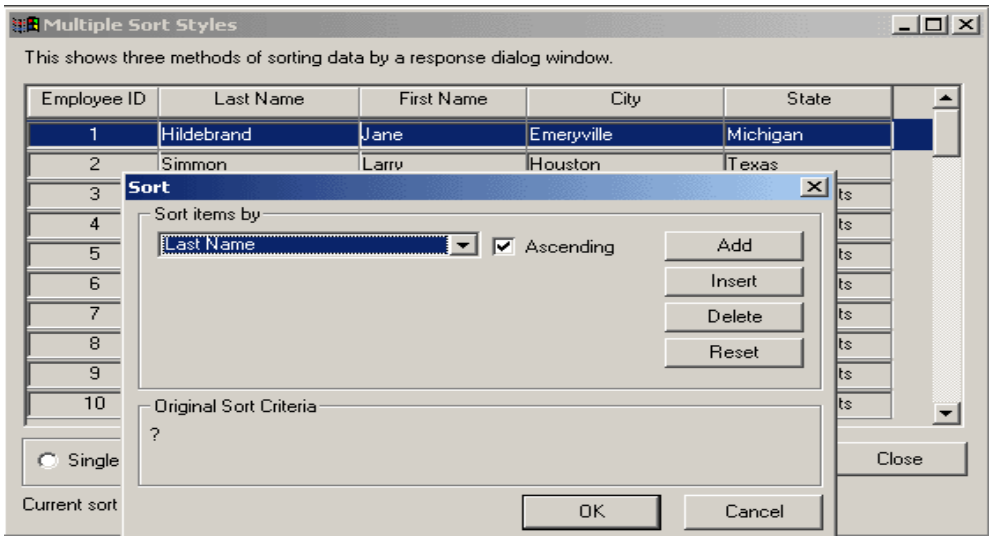
Figure 4-23: The Multiple Sort Style example



STEP 2 – Select one of the sort modes (for example, Multi Mode).

STEP 3 – Click the *Sort* button and the Sort dialog box is displayed. Refer to Figure 4-24.

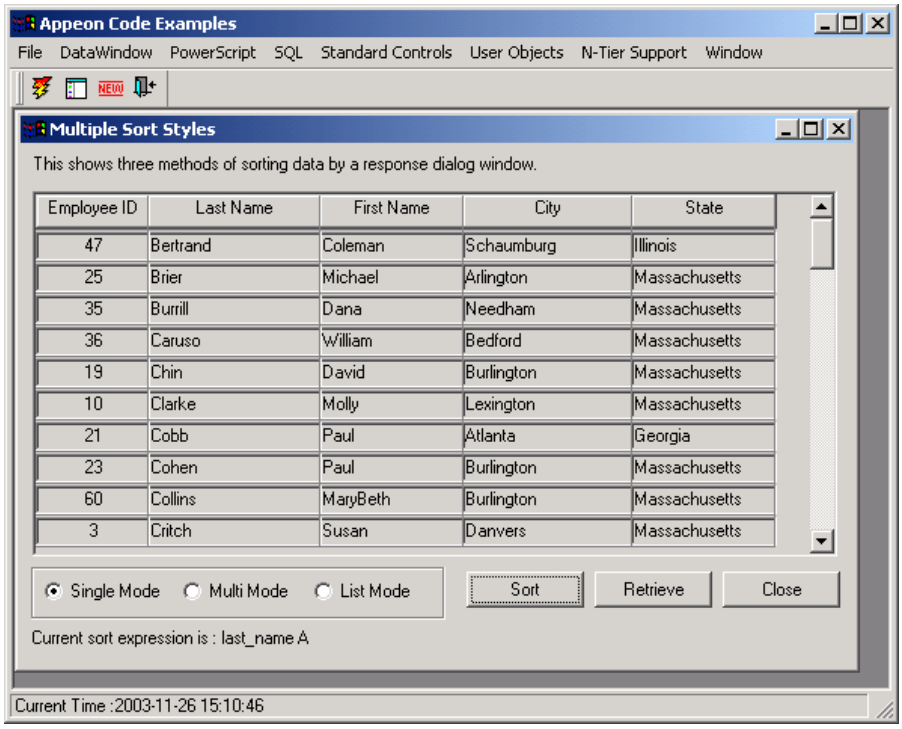
Figure 4-24: The Sort dialog box



STEP 4 – You can set the sort criteria by selecting a column title from the dropdown listbox. In addition, you can add more sort criteria by clicking the *Add* or *Insert* button. After the sort criteria are set, click *OK*.

The DataWindow will be sorted according to the sort criteria. Refer to Figure 4-25.

Figure 4-25: Sort DataWindow data



The window object in this example is w_dw_sortstyle. There are several object communications as follows:

- The choice of radio button will be communicated to the Clicked event of the *Sort* button to open the corresponding window.
- Once the sort criteria are set, the sort criteria are returned to the w_dw_sortstyle, and the text under the radio buttons is changed.

4.5 SQL statements

There are ten SQL code examples demonstrating the SQL syntaxes that Appeon supports including dynamic SQL format 1, dynamic SQL format 2, embedded SQL, cursor statements, stored procedure statements, etc.

This section explains how to work with the “Dynamic SQL Format 2” example. Perform the following steps to test it. You can also run the other examples by performing similar steps.

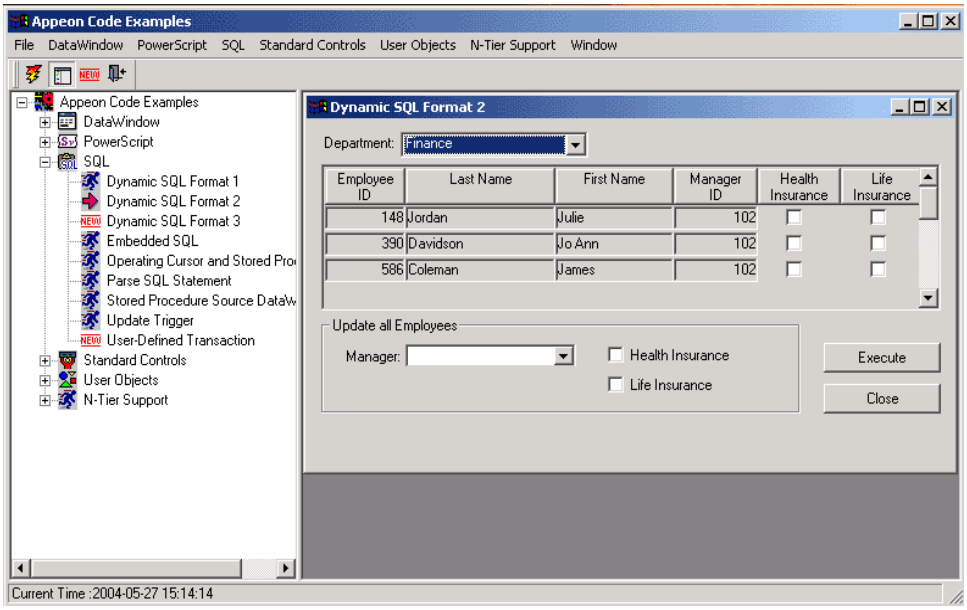
To run the “Dynamic SQL Format 2” example:

STEP 1 – Click the plus sign next to SQL in the Examples Panel. The sub-category is expanded and the titles of the examples are displayed. Double-click “Dynamic SQL Format 2” to run this example.

You can also run it by selecting SQL | Dynamic SQL Format 2.

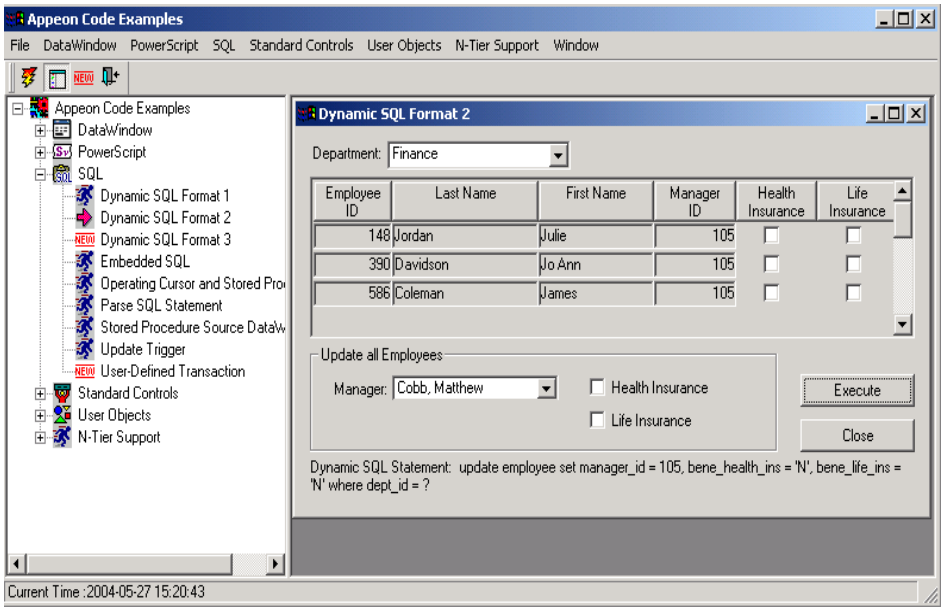
STEP 2 – Select a department from the dropdown list box to retrieve data into the DataWindow. Refer to Figure 4-26.

Figure 4-26: Select the department Finance



STEP 3 – In the "Update all Employees" group box, specify the dynamic SQL statement and then click the *Execute* button, as shown in the following screenshot (Figure 4-27):

Figure 4-27: Execute dynamic SQL statement (type 2)



STEP 4 – The DataWindow is updated according to the criteria.

The window object in this example is w_dynsql_format2. The syntax for dynamic SQL format 2 is as follows:

```
prepare SQLSA from :ls_sql;
execute SQLSA using :li_dept_id;
```

4.6 Standard controls

There are 31 standard control code examples, each representing a standard control that Appeon supports. By running the examples, you can test the functions, events, and properties of the standard controls.

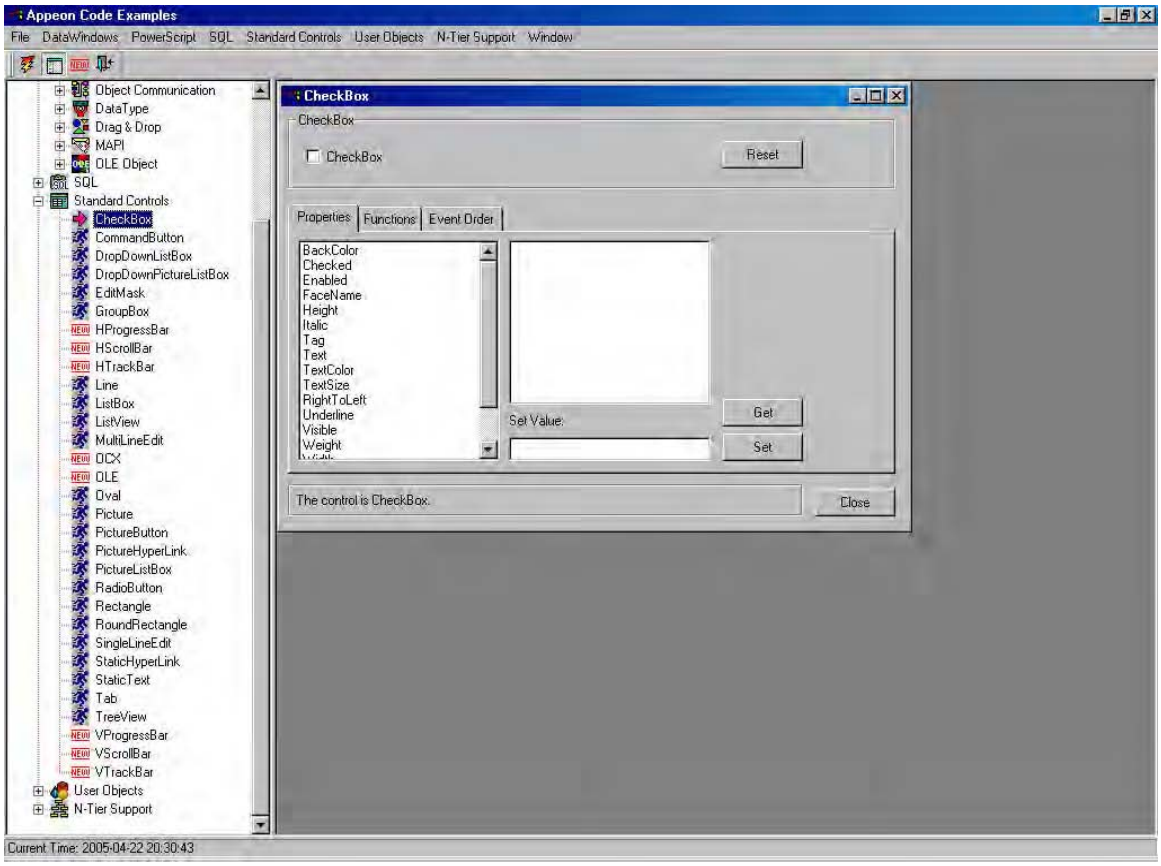
This section shows how to work with the "CheckBox" example. Perform the following steps to test it. You can also run the other examples by performing similar steps.

To run the "CheckBox" example:

STEP 1 – Click the plus sign next to the Standard Controls in the Examples Panel. The sub-category is expanded and the titles of the examples are displayed. Double-click "CheckBox" to run this example.

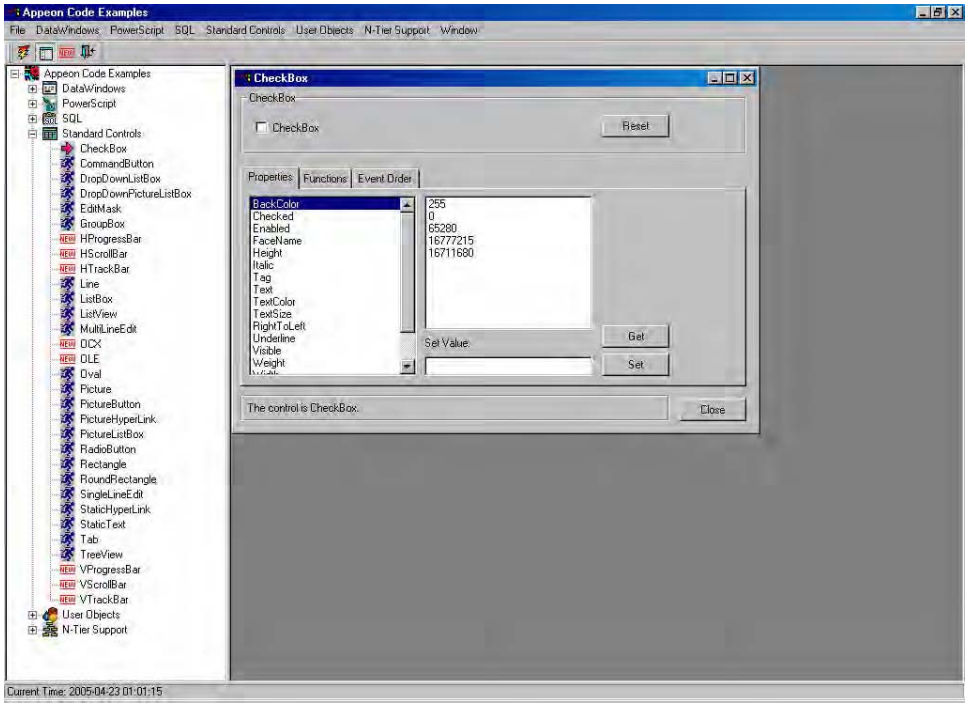
You can also run it by selecting Standard Controls | CheckBox. Refer to Figure 4-28.

Figure 4-28: The CheckBox example



STEP 2 – There are three tab pages: Properties, Functions, and Event Order. In the Properties tab page, select a property (for example, BackColor). Refer to Figure 4-29.

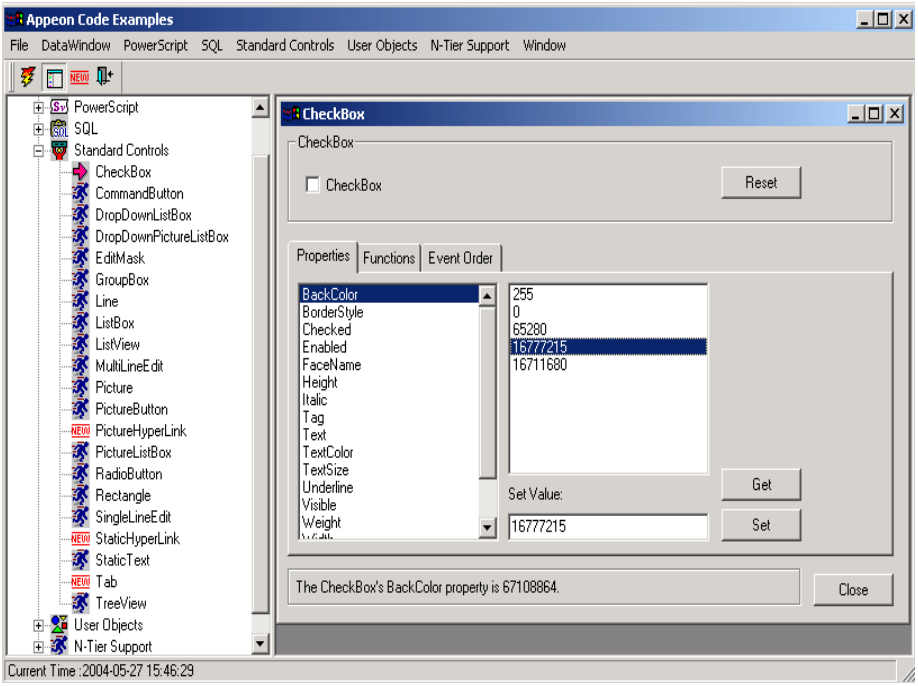
Figure 4-29: Select CheckBox BackColor property



STEP 3 – Set the BackColor to a specific value. There are several options provided (255, 0, 65280, etc.). Select an option listed in the list box or enter a valid value in the "Set Value" text box.

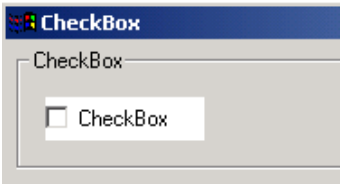
STEP 4 – Click the *Get* button. At the bottom of the window, the current value of the BackColor property is displayed. Refer to Figure 4-30.

Figure 4-30: Get the value of the BackColor property



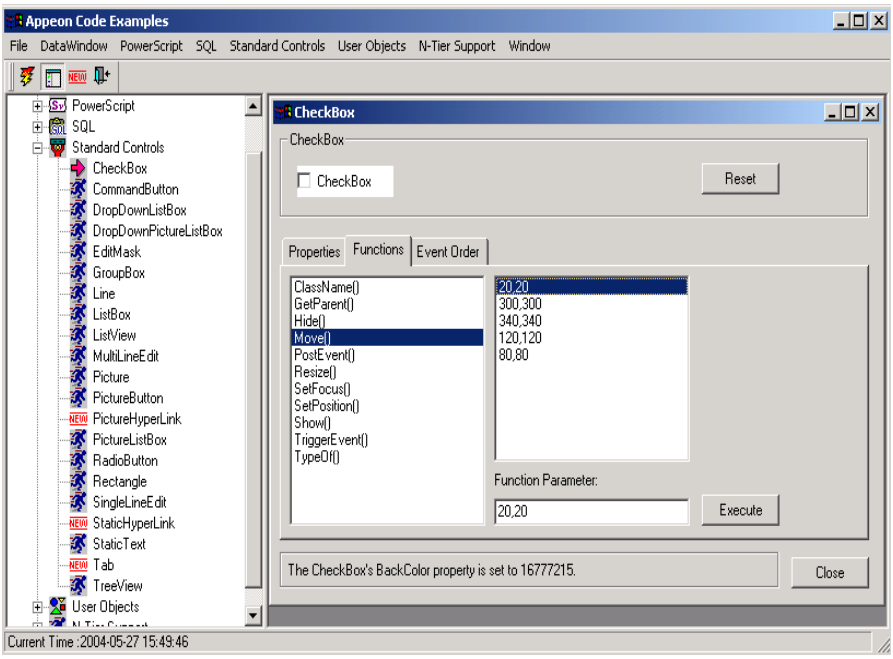
STEP 5 – Click the *Set* button and the property is set to the specified value. The control displays as it is set. Refer to Figure 4-31.

Figure 4-31: Set the value of the BackColor property



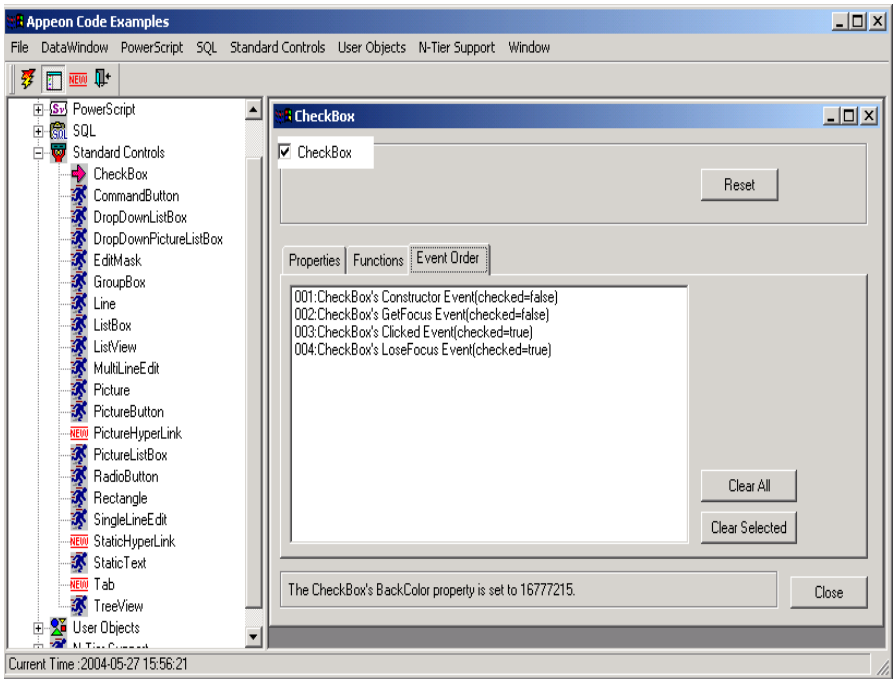
STEP 6 – In the Functions tab page, select a function, enter the required arguments, and execute the function. Refer to Figure 4-32.

Figure 4-32: Execute CheckBox Move function



STEP 7 – In the Event Order tab page, view the records of the events that have been triggered. Refer to Figure 4-33.

Figure 4-33: Viewing the event sequence of CheckBox control



The window object in this example is w_checkbox_new.

4.7 User objects

There are eight user object code examples, each of which includes a user object. The user object can be visual/non-visual user objects or auto-instantiated/non auto-instantiated objects.

This section explains how to work with the "Maintain DataWindow with UserObject" example. Perform the following steps to test it. You can also run the other examples by performing similar steps.

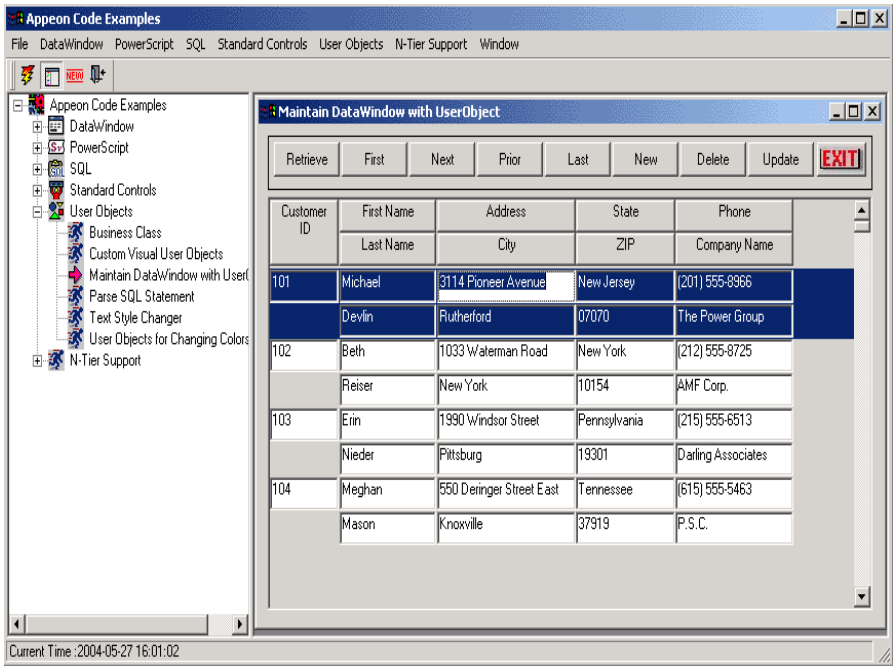
To run the "Maintain DataWindow with UserObject" example:

STEP 1 – Click the plus sign next to User Objects in the Examples Panel. The sub-category is expanded and the examples are displayed. Double-click "Maintain DataWindow with UserObject" to run this example.

You can also run it by selecting User Objects | Maintain DataWindow with UserObjects.

STEP 2 – Click the *Retrieve* button for retrieving data into the DataWindow. Refer to Figure 4-34.

Figure 4-34: The Maintain DataWindow with UserObject example



STEP 3 – Change the currently selected row by clicking the *First*, *Next*, *Prior*, and *Last* buttons.

STEP 4 – Insert a new row by clicking the *New* button.

STEP 5 – Delete the current row by clicking the *Delete* button.

STEP 6 – Save the changes by clicking the *Update* button.

STEP 7 – Exit the example by clicking the *Exit* button.

The window object in this example is w_uo_dw_record. The buttons group box at the top of the window is a visual user object, u_dw_ribbon_2.

4.8 N-Tier support

There are six N-Tier support code examples that will work only if Appeon Server uses *localhost* as the Host Name (*jagadmin* as the User Name) without a password. All examples call one or more 3-Tier NVOs that are deployed to Appeon Server. The 3-Tier NVOs contain Appeon-unsupported functions, execute business logic, or call other server components such as CORBA components.

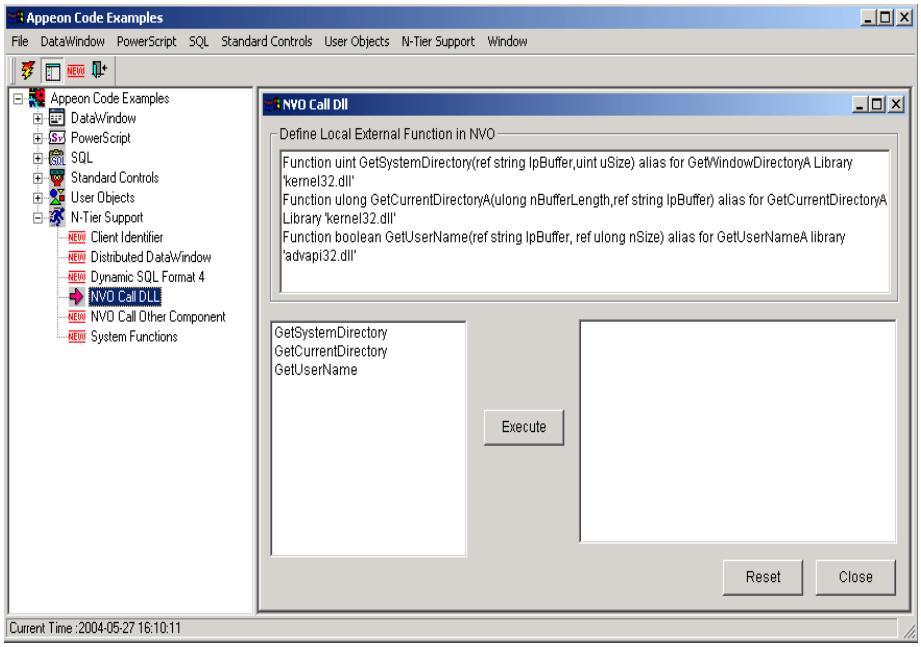
This section explains how to work with the "NVO Call DLL" example. Perform the following steps to test it. You can also run the other examples by performing similar steps.

To run the "NVO Call DLL" example:

STEP 1 – Click the plus sign next to n-Tier Support in the Example Panel. The sub-category is expanded and the examples are displayed. Double-click "NVO Call DLL" to run this example.

You can also run it by selecting N-Tier Support | NVO Call DLL. Refer to Figure 4-35.

Figure 4-35: The NVO Call DLL example



STEP 2 – Select a function from the list box (GetSystemDirectory, GetCurrentDirectly or GetUserName) and click the *Execute button*. The example calls to the appeon_callserver NVO that is deployed to the Appeon Server and the NVO executes the selected function.

The window object in this example is w_calldll_n_tier. The 3-Tier NVO involved in the example is appeon_callserver.

5 Running ACF Examples

5.1 Overview

Appeon ACF Examples is a sample application specially designed by Appeon Corporation based on the PFC Example Application. To better understand the Appeon ACF Examples, users must have a clear understanding of the following terms:

PFC – an abbreviation for PowerBuilder Foundation Class Library. It is a collection of well-supported PowerBuilder Libraries designed by Sybase Corporation. PFC provides dozens of code examples that can be utilized for the creation of PowerBuilder applications with minimal additional scripting in a short amount of time.

PFC Examples Application – demonstrates a great number of features of the PowerBuilder Foundation Class Library (PFC). It is a Multiple Document Interface (MDI) application that showcases dozens of code examples, all utilizing PFC concrete and service class objects.

ACF – a collection of well-supported Appeon PowerBuilder Libraries designed by Appeon Corporation. Codes in ACF are all created based on the PFC, and they are always ready to be utilized by Appeon developers for creating Appeon PowerBuilder applications with minimal additional codes in a short amount of time.

Appeon ACF Examples – a PowerBuilder application created by Appeon Corporation. It is a Multiple Document Interface (MDI) application that showcases dozens of code examples. It is designed to demonstrate Appeon 3.1's ability to successfully convert a PFC-based application to a Web application.

Appeon ACF demo provides two sets of source code: *appeon_acf_demo_js* for the Pure-JavaScript deployment and *appeon_acf_demo_ax* for the Appeon Xcelerator deployment. Both of them provide the same examples. Examples and screenshots given in the following sections are based on *appeon_acf_demo_ax* (with Appeon Xcelerator deployment).

There are dozens of examples divided into six categories in the application. Each category deals with a number of PowerBuilder or Appeon functionalities. Refer to Table 5-1.

Table 5-1: Examples in Appeon ACF Examples demo

Category	Features	Examples
Application Services	Application functionalities in PFC that are supported by Appeon 3.1.	Date Services Example Error Services Example
DataWindow Services	DataWindow functionalities in PFC that are supported by Appeon 3.1.	DDDW Calculator and Calendar Drop-down Search Service Dynamic Filter Expressions Filter Service Dialogs Filter Service Settings Find and Replace Service Multiple Table Update Service Refresh Drop-down DataWindows Service Required Columns Service Row Manager Service Row Selection Service Sort Service Dialogs
Linkage Services	Linkage functionalities in PFC that are supported by Appeon 3.1.	Across Tab Pages Basic Filters Basic Retrieval Arguments Basic Scrolling Filter with Cascading Deletes Filter with Cascading Keys Retrieval with Auto-updates
Objects	Object functionalities in PFC that are supported by Appeon 3.1.	Split Bar 3 Pane Style Split Bar 3 Explorer Style
TreeView and ListView	TreeView and ListView functionalities in PFC that are supported by Appeon 3.1.	(5.x) Basic ListView (5.x) TreeView and a ListView (5.x) Update a TreeView Basic ListView Basic TreeView TreeView Linked to a ListView Update a TreeView
Window Services	Window functionalities in PFC that are supported by Appeon 3.1.	Resize Dynamic Tab Pages Save Process: All DW Scenarios Weighted Resize of a Window Window Resize Service

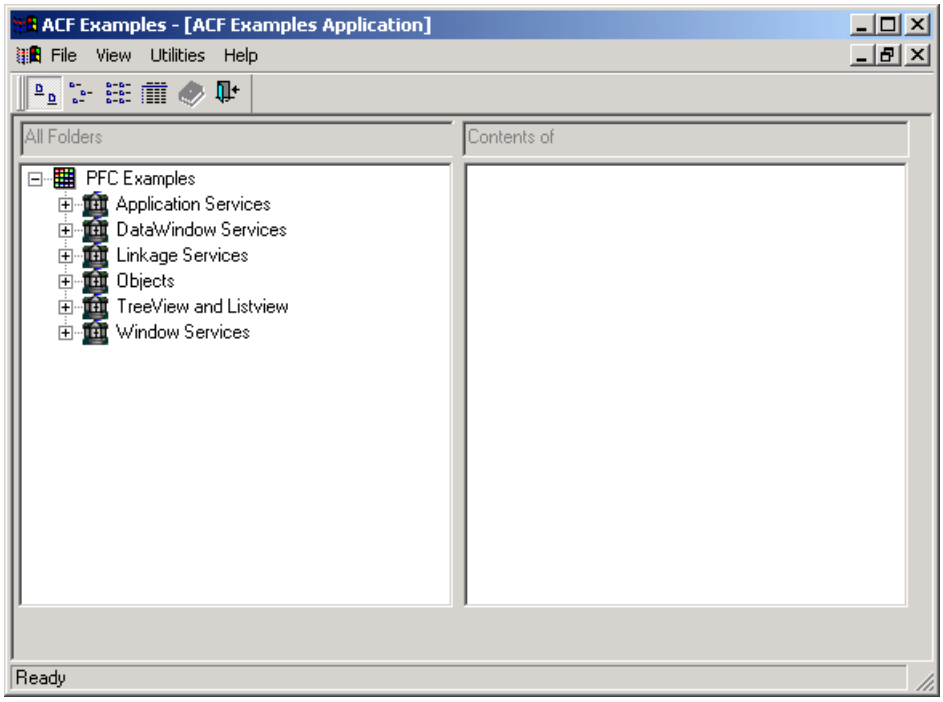
5.2 Run Appeon ACF Examples

To run the Appeon ACF Demo, perform the following steps.

STEP 1 – Click the *Select and Run* button () in the PowerBar to open the *Select a target* window.

STEP 2 – Select “appeon_acf_demo_ax”. The ACF Examples demo displays as shown in Figure 5-1.

Figure 5-1: ACF Examples main screen



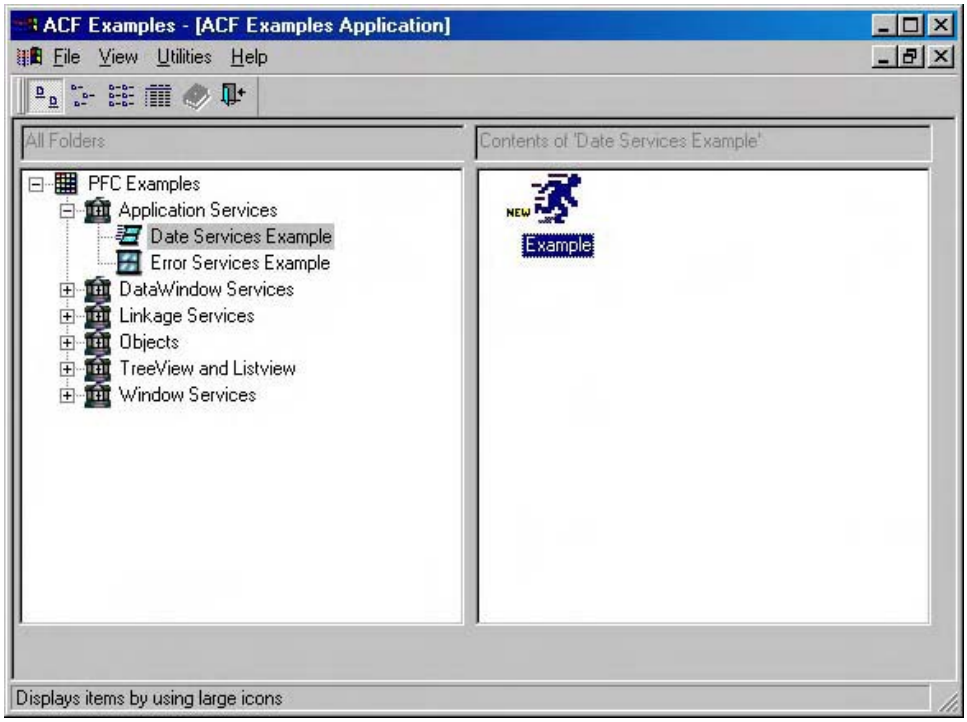
5.3 Application Services

There are two examples in the Application Services category. You can view them by expanding the Application Service item on the left. The examples are designed to demonstrate the application functionality that the developer can use to create other applications with minimal additional codes. This section shows how to work with the “Date Services Example”. Perform the following steps to test it. You can also run the other examples by performing similar steps.

To run the “Date Services Example”:

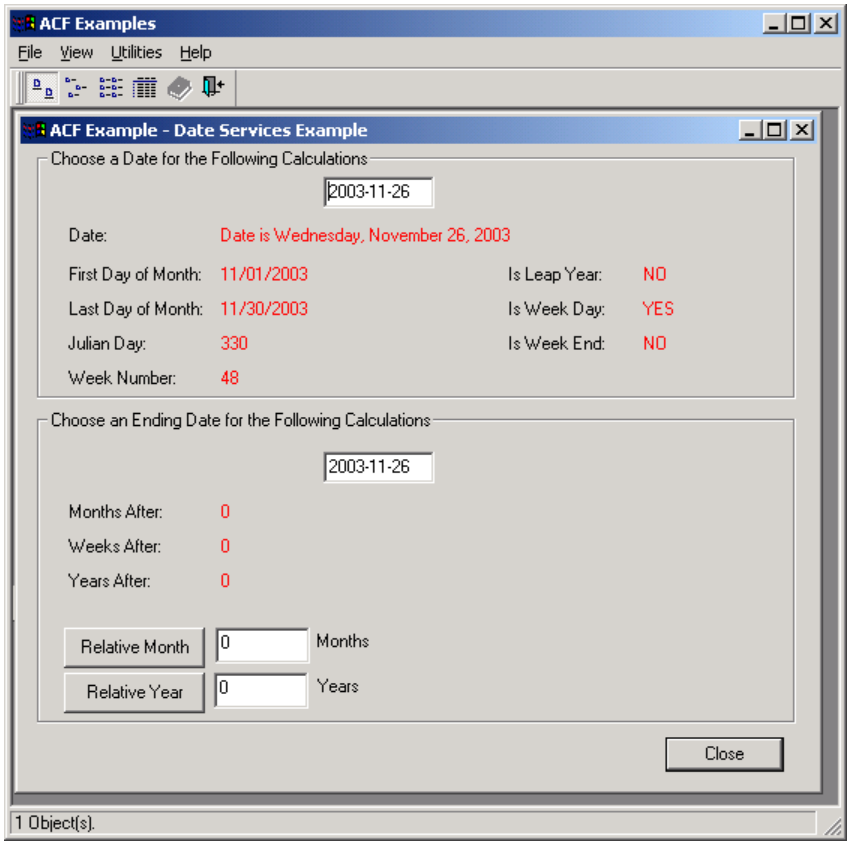
STEP 1 – Expand the *Application Services* item and click “Date Services Example”. An example icon is displayed in the right panel. Refer to Figure 5-2.

Figure 5-2: Running the Date Services Example



STEP 2 – Double-click the example icon. The ACF Example - Date Services Example window is displayed. Refer to Figure 5-3.

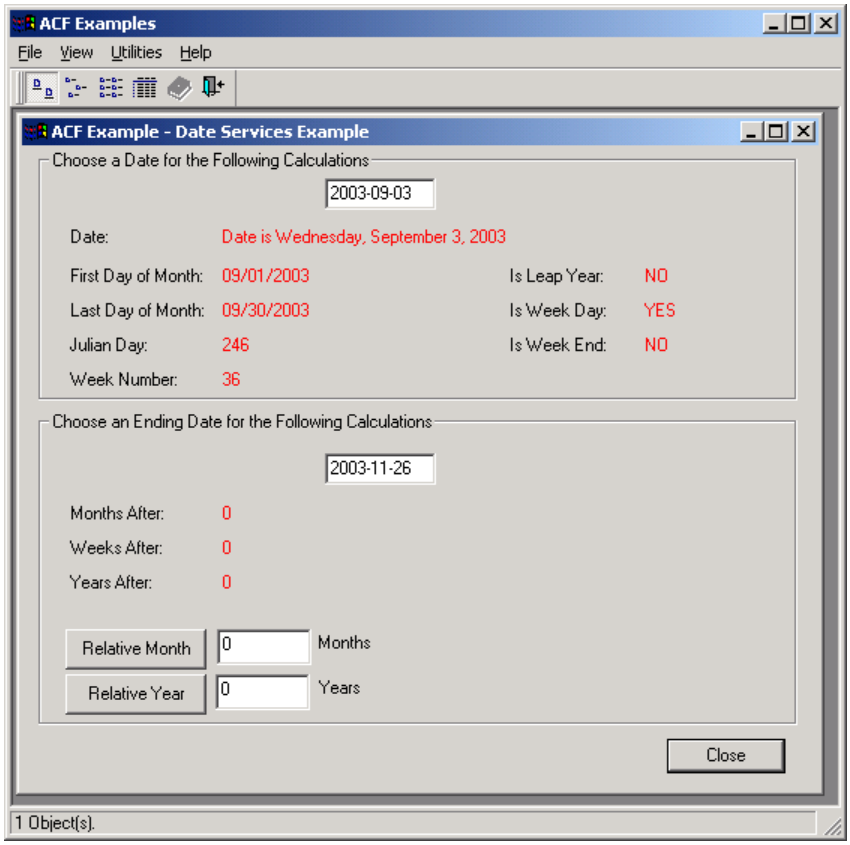
Figure 5-3: The ACF Date Services Example



Date Service performs a series of date related mathematical calculations based on the date entered in the text box. The values displayed in red are the calculation results.

STEP 3 – Enter a date in the text box and click the mouse on another field within the window. All values in red change accordingly. Refer to Figure 5-4.

Figure 5-4: Change date to re-calculate



5.4 DataWindow Service

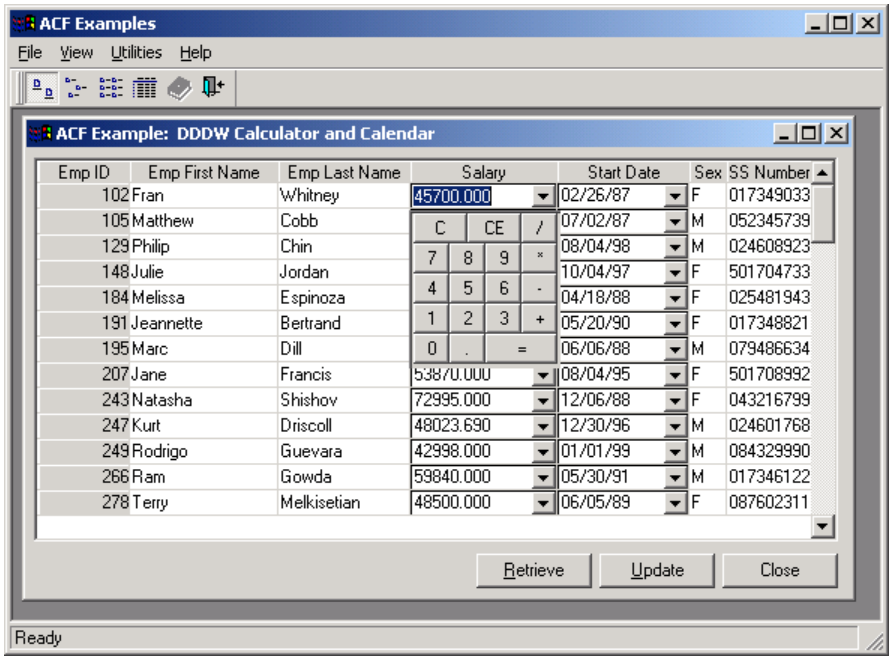
There are twelve examples in the DataWindow Service category. You can view all of them by expanding the DataWindow Service item in the left. Each example demonstrates a DataWindow-based functionality. This section shows how to work with the "DDDW Calculator and Calendar" example. Perform the following steps to test it. You can also run the other examples by performing similar steps.

To run the "DDDW Calculator and Calendar" example:

STEP 1 – Expand the DataWindow Services item and click "DDW Calculator and Calendar". An example icon is displayed in the right panel.

STEP 2 – Double-click the example icon. The DDDW Calculator and Calendar window is displayed. Refer to Figure 5-5.

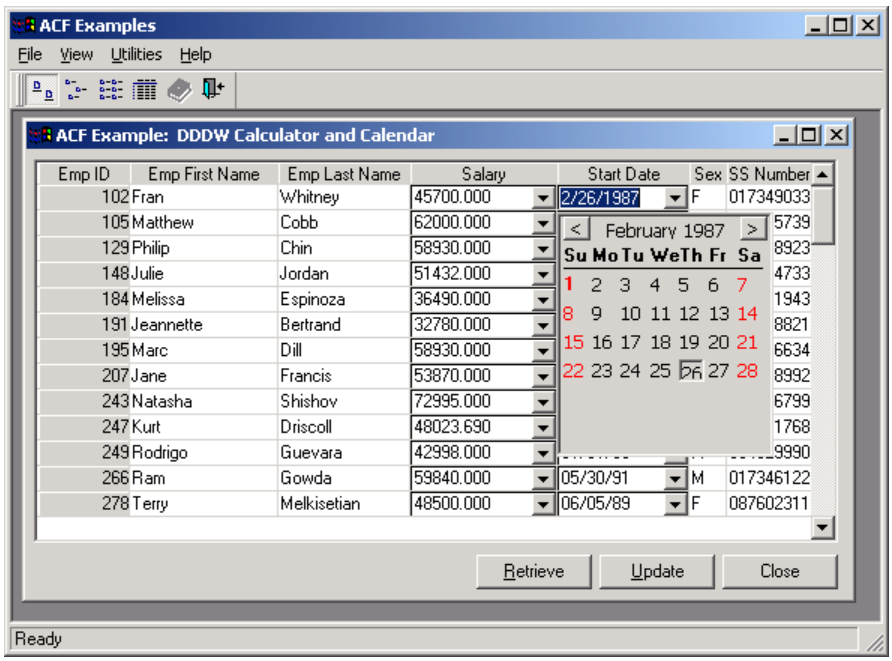
Figure 5-5: DDDW Calculator



STEP 3 – Click the arrow of a cell in the Salary column. A small calculator is displayed. You can conduct basic mathematical calculations for the cell with the calculator.

STEP 4 – Click the arrow of a cell in the Start Date column. A calendar is displayed. You can pick a date from the calendar and the date is displayed in the cell. Refer to Figure 5-6.

Figure 5-6: DDDW calendar



5.5 Linkage Service

There are seven examples in the Linkage Service category. You can view all of them by expanding the Linkage Service item in the left panel. The examples in this category are designed to demonstrate how across-tab pages in one window are mutually linked, and how they cooperate with each other to implement functions. This section shows how to work with

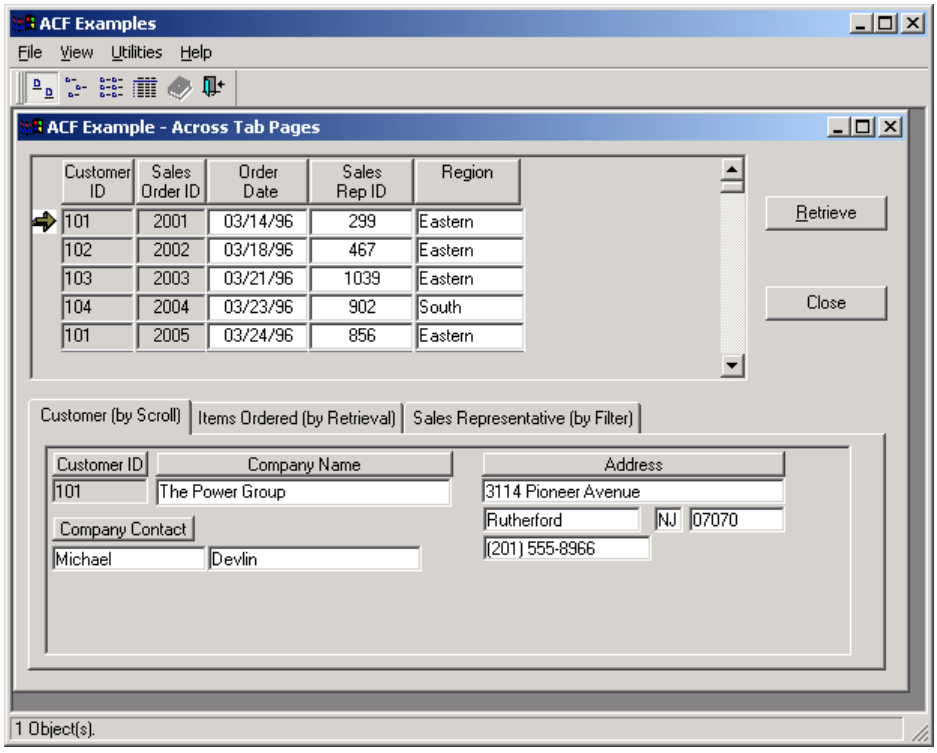
the “Across Tab Pages” example. Perform the following steps to test it. You can also run the other examples by performing similar steps.

To run the “Across Tab Pages” example:

STEP 1 – Expand the Linkage Services item and click “Across Tab Pages example”. An example icon is displayed in the right panel.

STEP 2 – Double-click the example icon. The Across Tab Pages window is displayed. Refer to Figure 5-7.

Figure 5-7: The Across Tab Pages example



STEP 3 – Click the *Retrieve* button to retrieve data into the DataWindow (master DataWindow). There are several detailed DataWindows for the master DataWindow. Each detailed DataWindow is placed in one of the three tab pages.

5.6 Objects

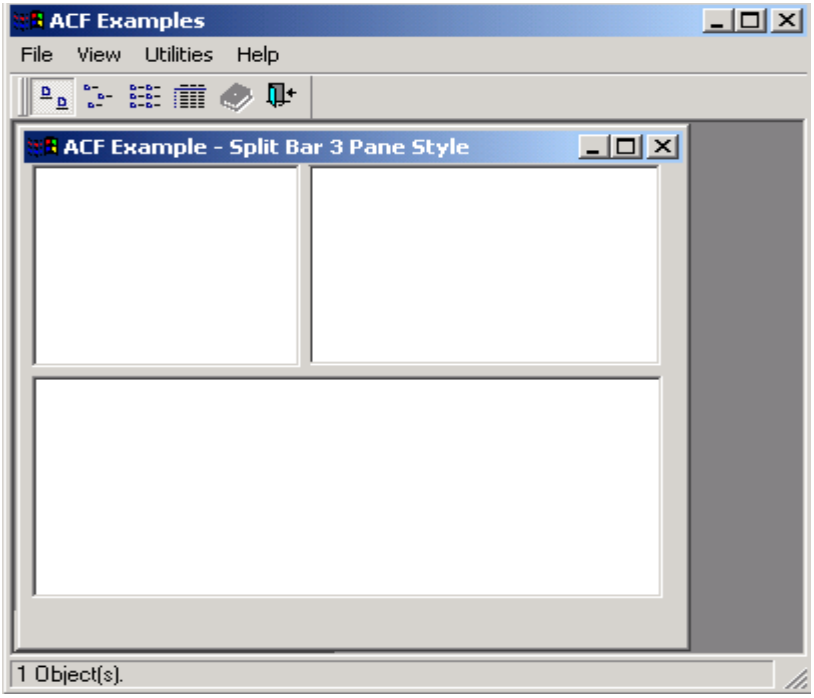
There are two examples in the Objects category. You can view both of them by expanding the Objects item in the left panel. The two examples in this category are designed to demonstrate the objects functionalities. This section shows how to work with the “Split Bar 3 Pane Style” example. Perform the following steps to test it. You can also run the other example by performing similar steps.

To run the “Split Bar 3 Pane Style" example:

STEP 1 – Expand the *Objects* item and click the Split Bar 3 Pane Style example. An example icon is displayed in the right panel.

STEP 2 – Double-click the example icon. The Split Bar 3 Pane Style window is displayed. Refer to Figure 5-8.

Figure 5-8: The Split Bar 3 Pane Style example



The window in the example is divided into three sections by two split bars. By dragging and dropping the bar, you can re-size the sections in the window.

5.7 TreeView and ListView

There are seven examples in the TreeView and ListView category. You can view all the examples by expanding the TreeView and ListView item in the left panel. The seven examples in this category are all provided to demonstrate how to the TreeView and ListView work.

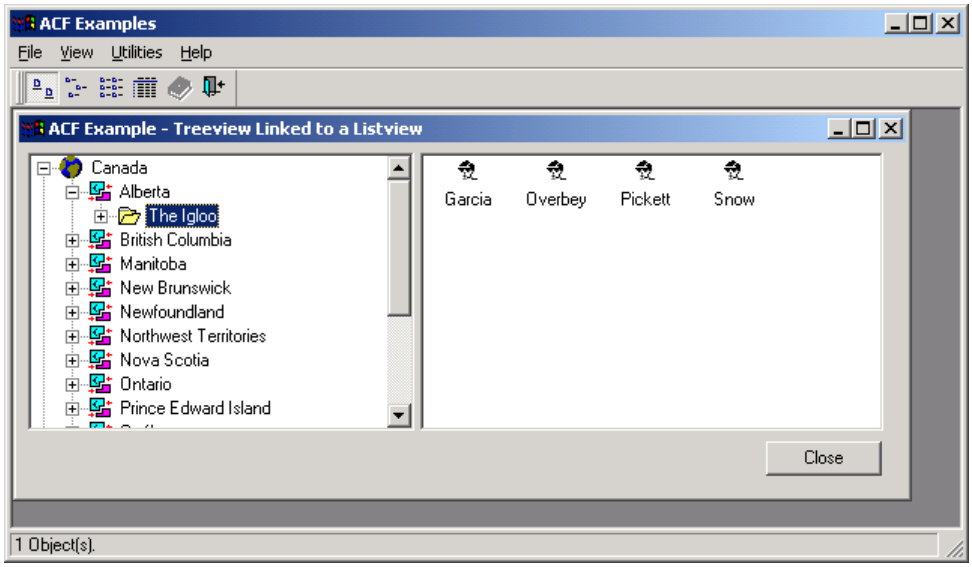
This section shows how to work with the “TreeView Linked to a ListView” example. Perform the following steps to test it. You can also run the other examples by performing similar steps.

To run the “TreeView Linked to a ListView” example:

STEP 1 – Expand the TreeView and ListView item and click the “TreeView Linked to a ListView” example. An example icon is displayed in the right panel.

STEP 2 – Double-click the example icon. The TreeView Linked to a ListView window is displayed. Refer to Figure 5-9.

Figure 5-9: The TreeView linked to a ListView example



STEP 3 – Double-click the Eastern item. Items under Eastern will be displayed in both the left panel and right panel.

5.8 Window Service

There are four examples in the Window Service category. You can view all the examples by expanding the Window Service item in the left panel. The four examples in this category are designed to demonstrate how a tab page or a textbox is re-sized with a mouse action.

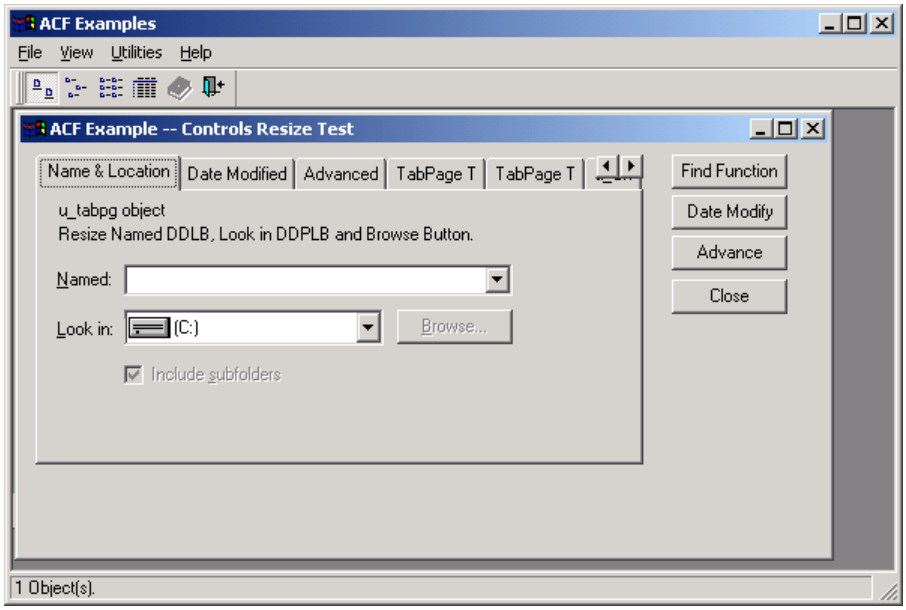
This section shows how to work with the “Resize Dynamic Tab Pages” example. Perform the following steps to test it. You can also run the other examples by performing similar steps.

To run the “Resize Dynamic Tab Pages” example:

STEP 1 – Expand the Window Services item and click the “Resize Dynamic Tab Pages” example. An example icon is displayed in the right panel.

STEP 2 – Double-click the example icon. The Resize Dynamic Tab Pages window is displayed. Refer to Figure 5-10.

Figure 5-10: The Resize Dynamic Tab Pages example (Controls Resize Test)



STEP 3 – Move the cursor over the edge of the window until the pointer turns into a double-headed arrow.

STEP 4 – When you drag and drop the mouse to resize the window, the DropDownPictureListBox will also be resized.

6 Deploying the PowerBuilder Demos to Web

6.1 Overview

It is unnecessary to go through the steps in this chapter to view the converted Web applications since the Web versions of these applications are already installed (if the complete installation mode was selected). If you did not choose to install the Web applications during the installation of Appeon Server, or if you want to get a quick and high-level introduction to Appeon Developer and how to deploy applications, proceed with this chapter. With the following specifications: P4 2.4 GHz with 1024 MB RAM, it takes approximately 2-3 minutes to complete all the outlined deployment tasks for Appeon Code Examples, 1-2 minutes for the Sales Application Demo, and 3-7 minutes for the Appeon ACF Example.

This chapter uses the Sales Application Demo as an example, demonstrating how to deploy a PowerBuilder demo to Web. You can also deploy the other Appeon demos by performing similar steps.

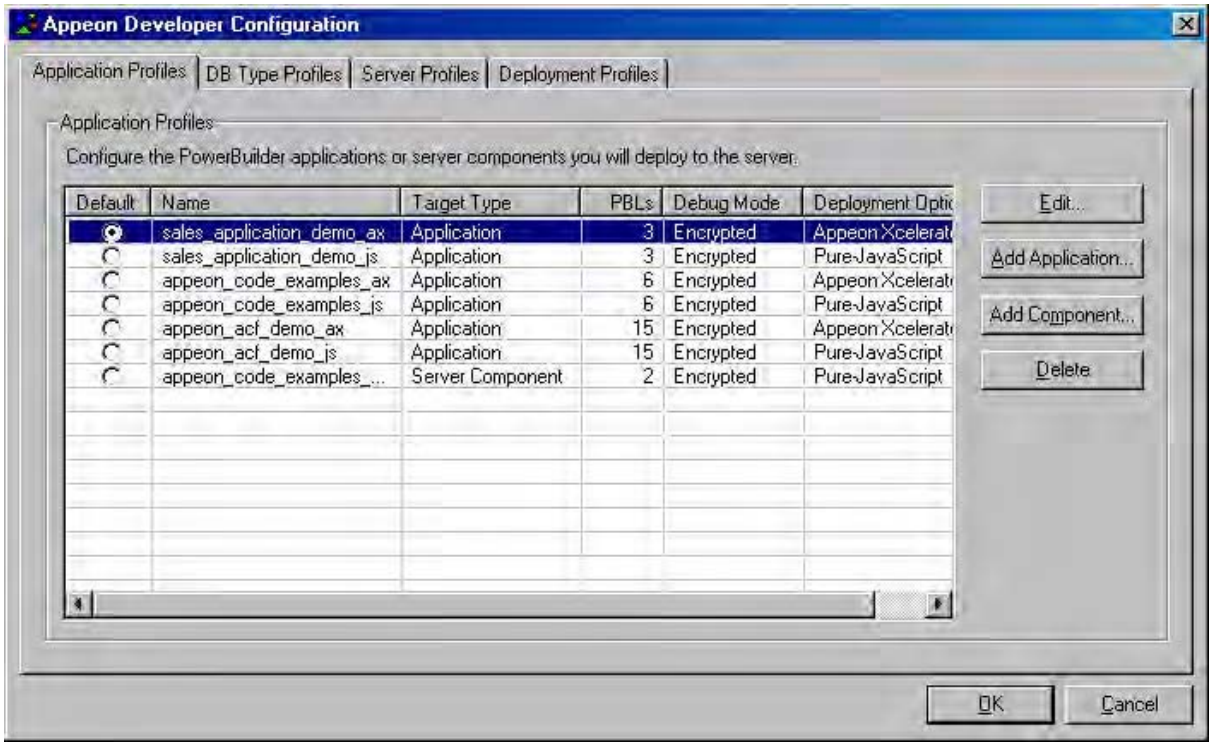
6.2 Verify the configuration in Appeon Developer

Each Appeon demo has two separate application profiles pre-configured respectively the Pure-JavaScript deployment and the Appeon Xcelerator deployment. The pre-configured application profiles can work well with the demos. We do not recommend modifying any of the profile settings. However, it is helpful to examine the configuration profiles so as to gain an understanding of how the settings are configured and how to verify that these settings are correct and compatible with your system. Any inappropriate changes in the profile configuration may result in problems with the demos and with the application deployment.

The following example shows how to verify settings for the Sales Application demo with the Appeon Xcelerator deployment option:

STEP 1 – Click the *Configure* button () on the Appeon Developer toolbar. This button will open the “Appeon Developer Configuration” window as shown in Figure 6-1.

Figure 6-1: Appeon Developer Configuration



The *Application Profiles* tab page contains configurations for applications or components that will be deployed to the Appeon Server.

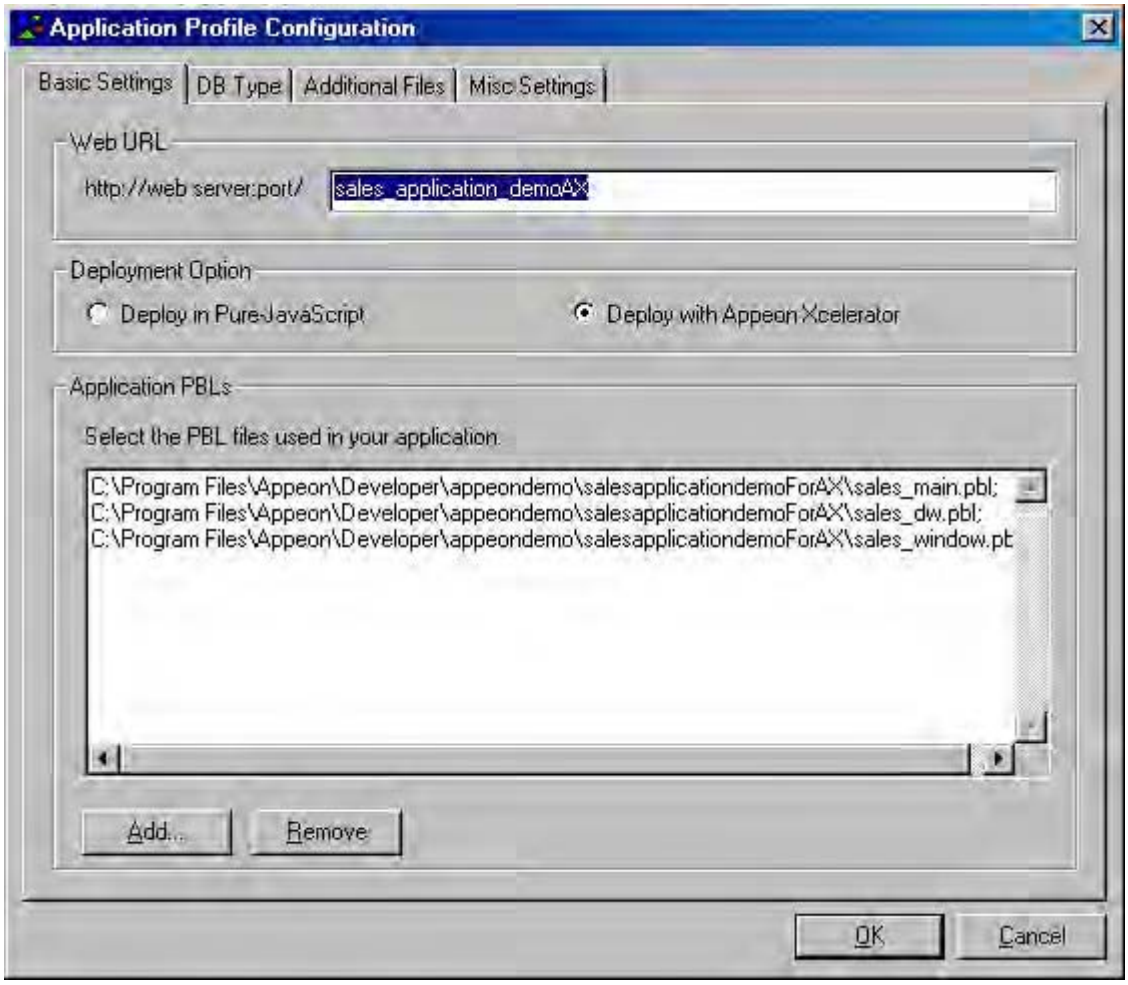
The *DB Type Profiles* tab page manages the database types that Appeon Deployment Wizard supports for application deployments.

The *Server Profiles* tab page contains the settings for the Web Servers and the Appeon Servers used for hosting the Web applications.

The *Deployment Profiles* tab page associates specified Web Server(s) and Appeon Server(s) as a group for Web deployment.

STEP 2 – In the *Application profiles* tab page, select "*sales_application_demo_ax*" and click the *Edit* button to view the configured profile settings. Refer to Figure 6-2.

Figure 6-2: Application Profile Configuration



Basic Settings

Web URL – specifies the Web URL where the Web application's files will be placed.

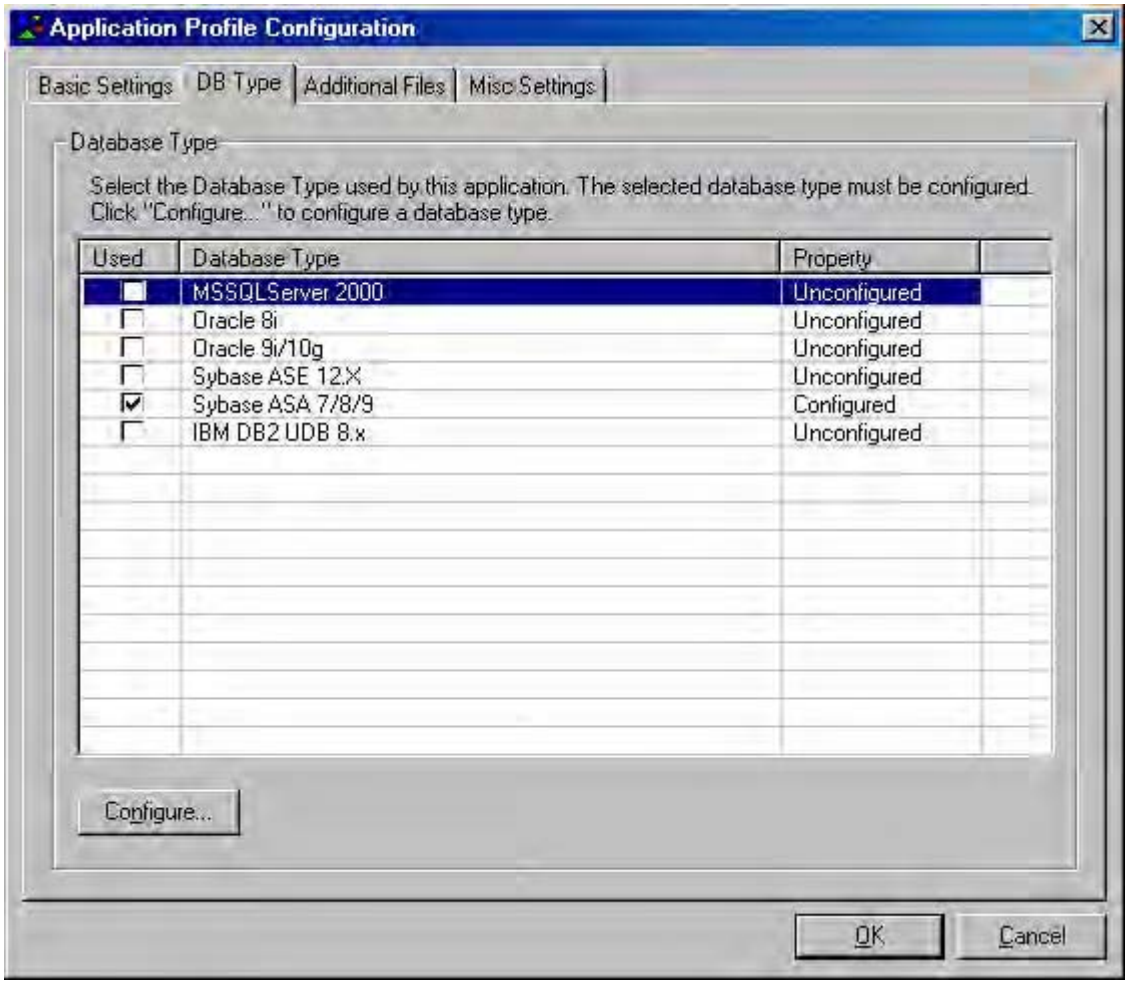
Deployment Option – provides two deployment options, "Deploy in Pure-JavaScript" and "Deploy with Appeon Xcelerator".

Application PBLs – list the PBLs for the selected application to be moved onto the Web. It is recommended that all the PBLs in the application be moved.

DB Type

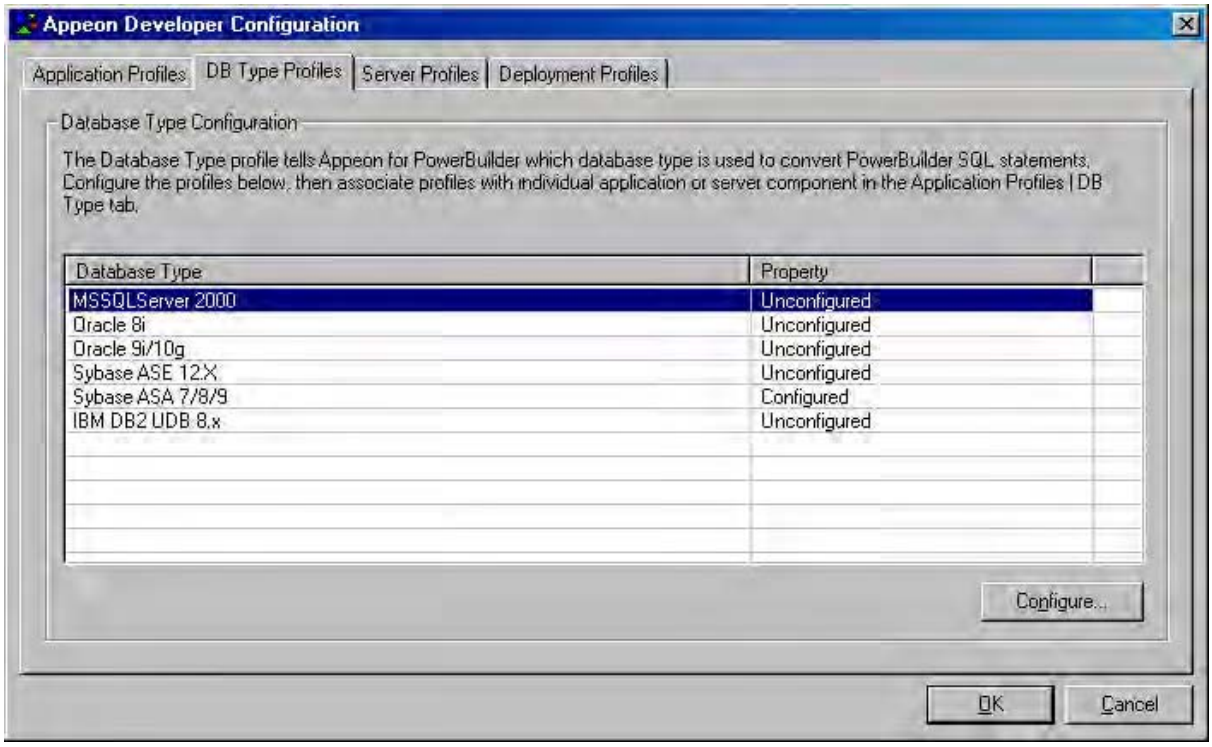
You can view the database type specified for the demo in the DB Type tab page, as shown in Figure 6-3.

Figure 6-3: DB Type



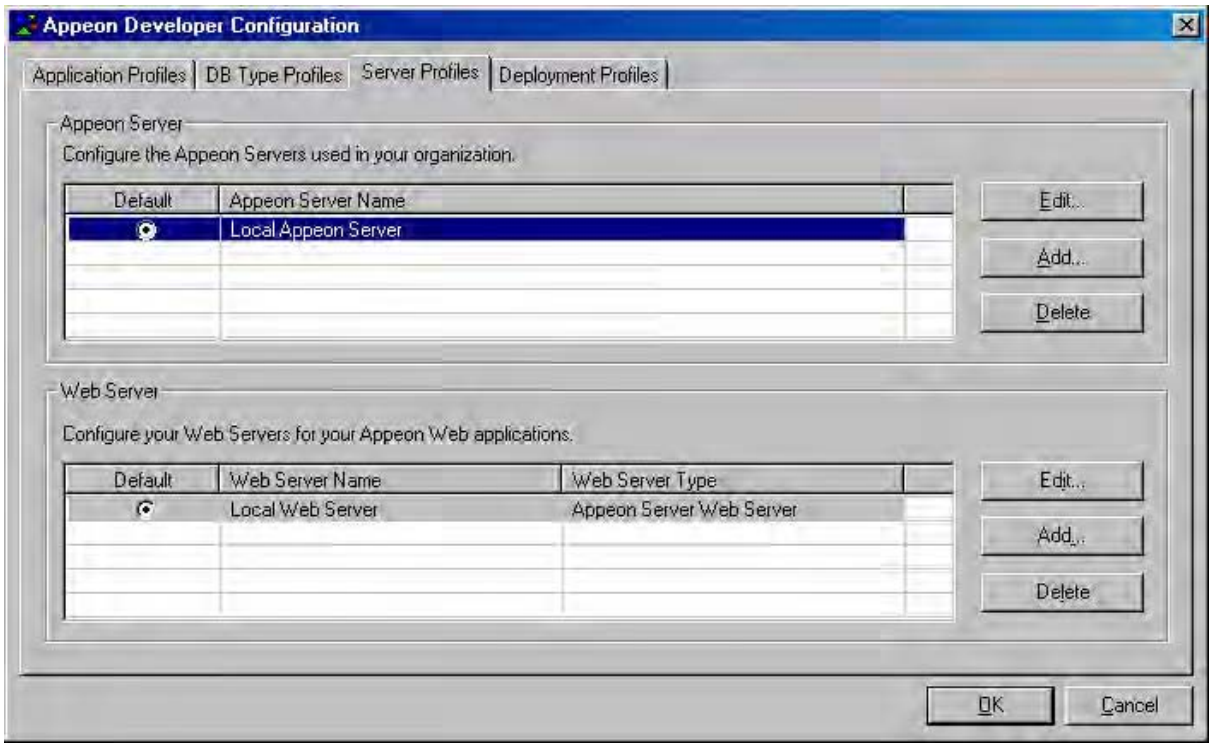
STEP 3 – View the database type profiles in the *DB Type Profiles* tab page. Refer to Figure 6-4.

Figure 6-4: DB Type Profiles



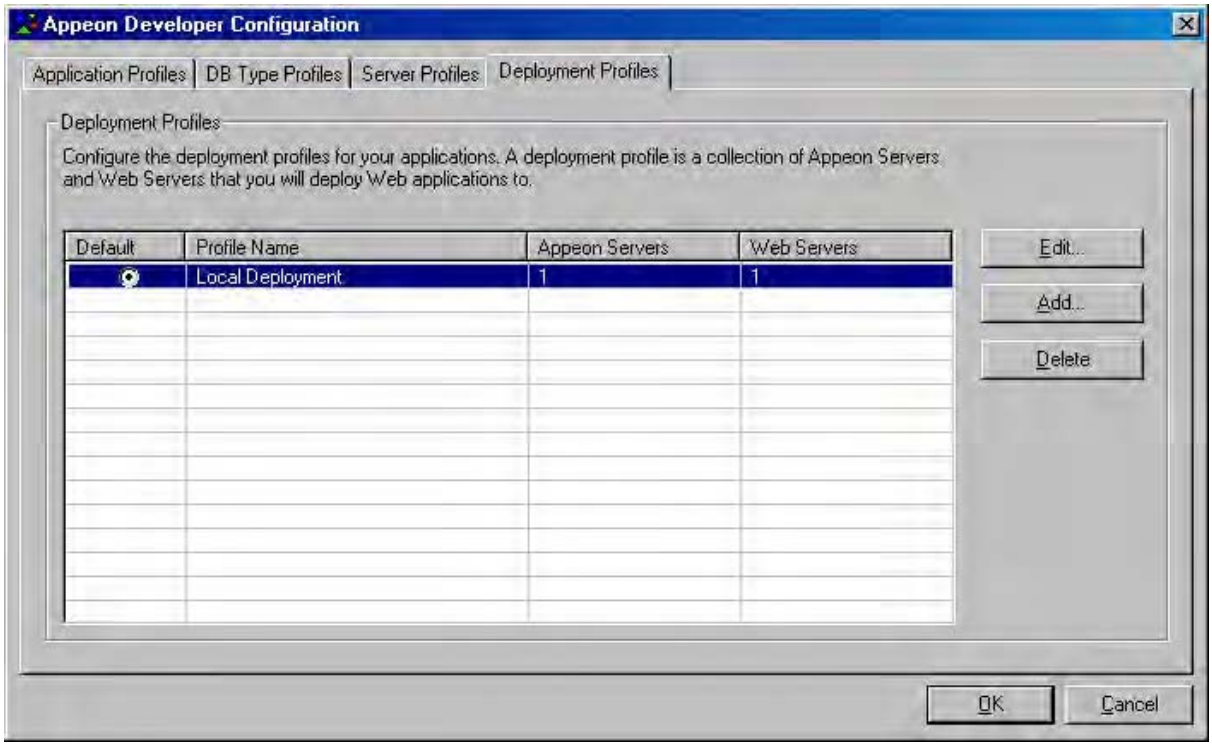
STEP 4 – View the server profiles in the *Server Profiles* tab page. Refer to Figure 6-5.

Figure 6-5: Server Profiles



STEP 5 – View the deployment profiles in the Deployment Profiles tab page. The deployment profile "Local Deployment" is configured so the Application Server and Web Server reside on one machine. Refer to Figure 6-6.

Figure 6-6: Deployment profile

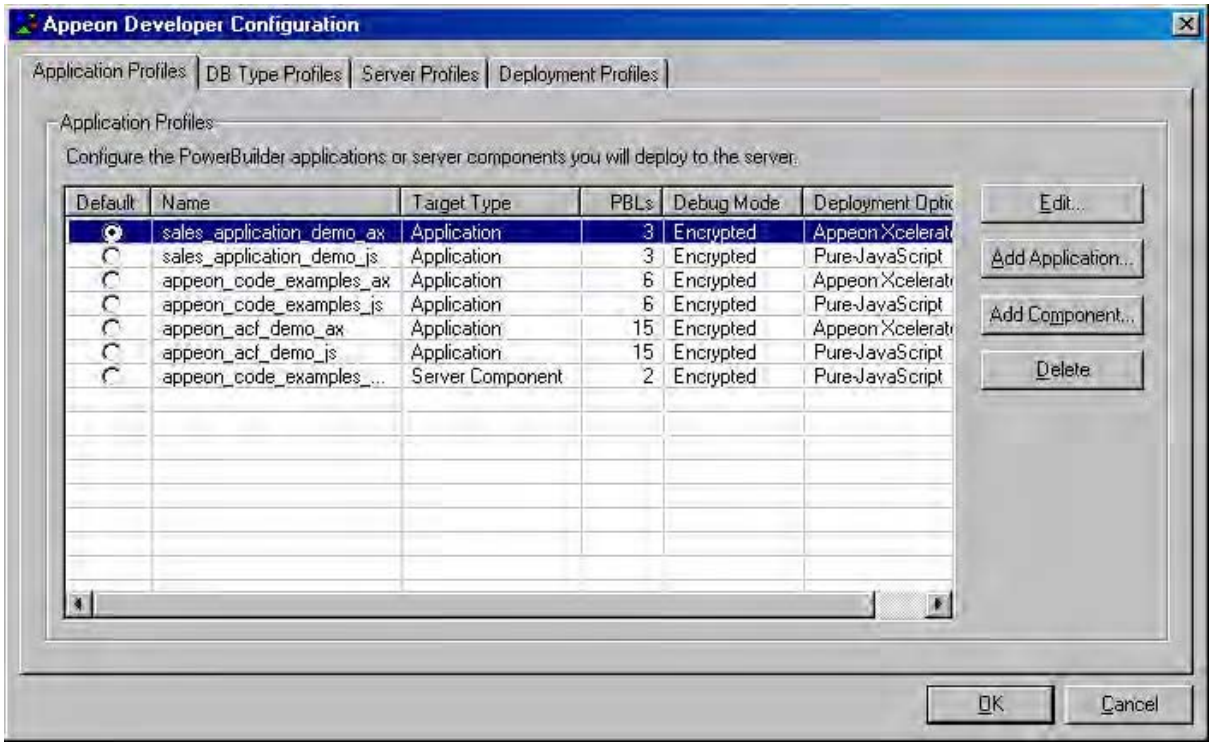


For more information on Appeon Developer configuration, refer to the *Appeon Developer User Guide*.

6.3 Select the default application

An application is set as the default application in Appeon Developer. You can set and change the default application in the "Appeon Developer Configuration" window. Before using any tools in Appeon Developer, verify that you have specified the desired application demo as the default application. Take the Sales Application Demo for example. Select the associated radio button next to "*sales_application_demo_ax*" in the Application Profiles tab page. Refer to Figure 6-7.

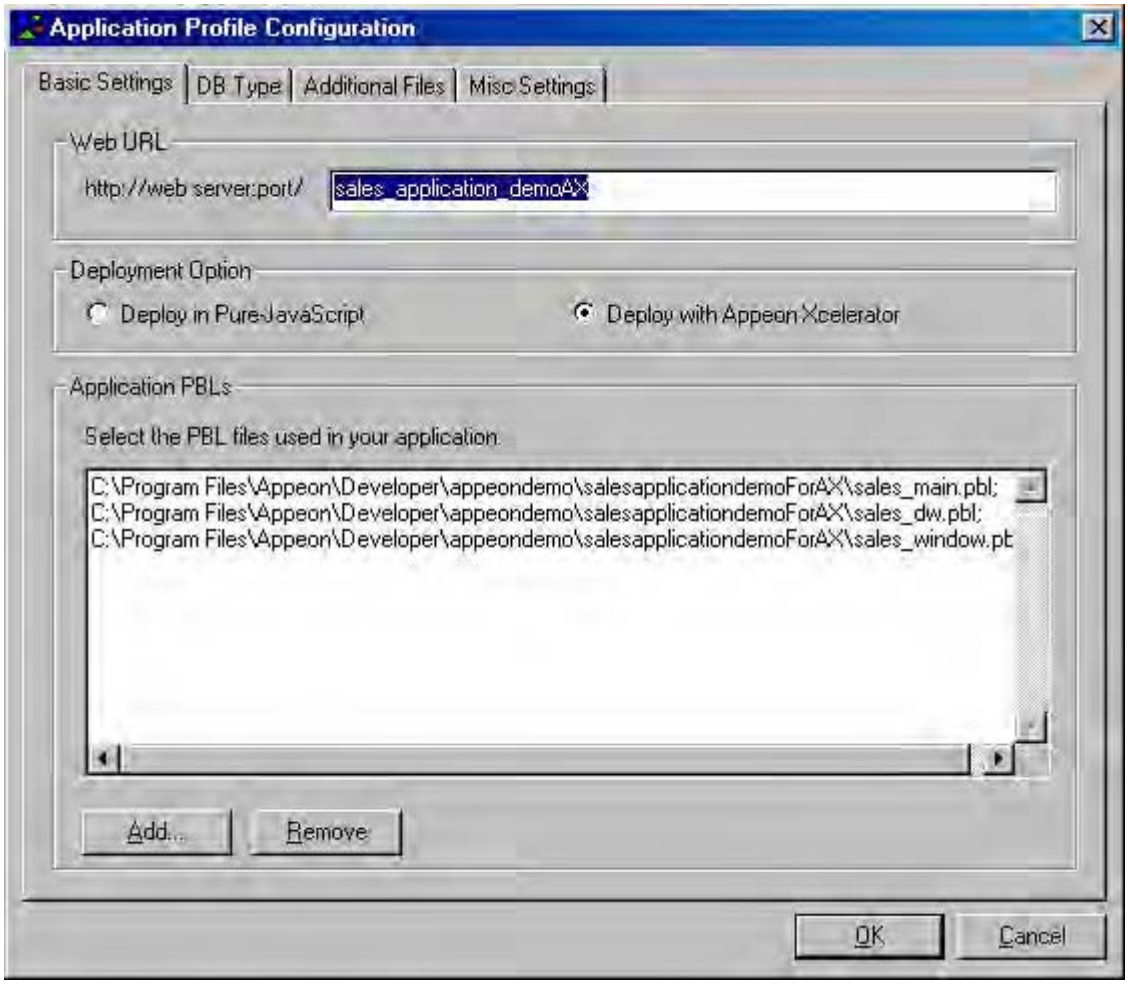
Figure 6-7: Select default application



Debug Mode – There are three options: Encrypted, Debug JS, and Debug PB/JS. Different modes contain different Web files after deployment. The Web files are either encrypted or unencrypted, and will or will not have the PowerBuilder source code.

Note: Ensure that you select the right deployment option for the default application in the "Application Profiles Properties" window. Refer to Figure 6-8.

Figure 6-8: Select the deployment option for the default application



6.4 Analyze unsupported PowerBuilder features

Features Analysis analyzes a specified object or an entire application for unsupported features and generates an unsupported features report. This section focuses on how to analyze unsupported PowerBuilder features for the Sales Application Demo using the Feature Analysis tool. For more details on how to take advantage of the Features Analysis, refer to the *Appeon Developer User Guide*.

To start Features Analysis for Sales Application Demo:

STEP 1 – Click the *Analyze* button ( ) on the Appeon Developer toolbar. A "Select Objects to Analyze" window displays for you to select the application, PBL(s), or object(s) that you want to analyze. Refer to Figure 6-9.

Figure 6-9: Select Objects to Analyze

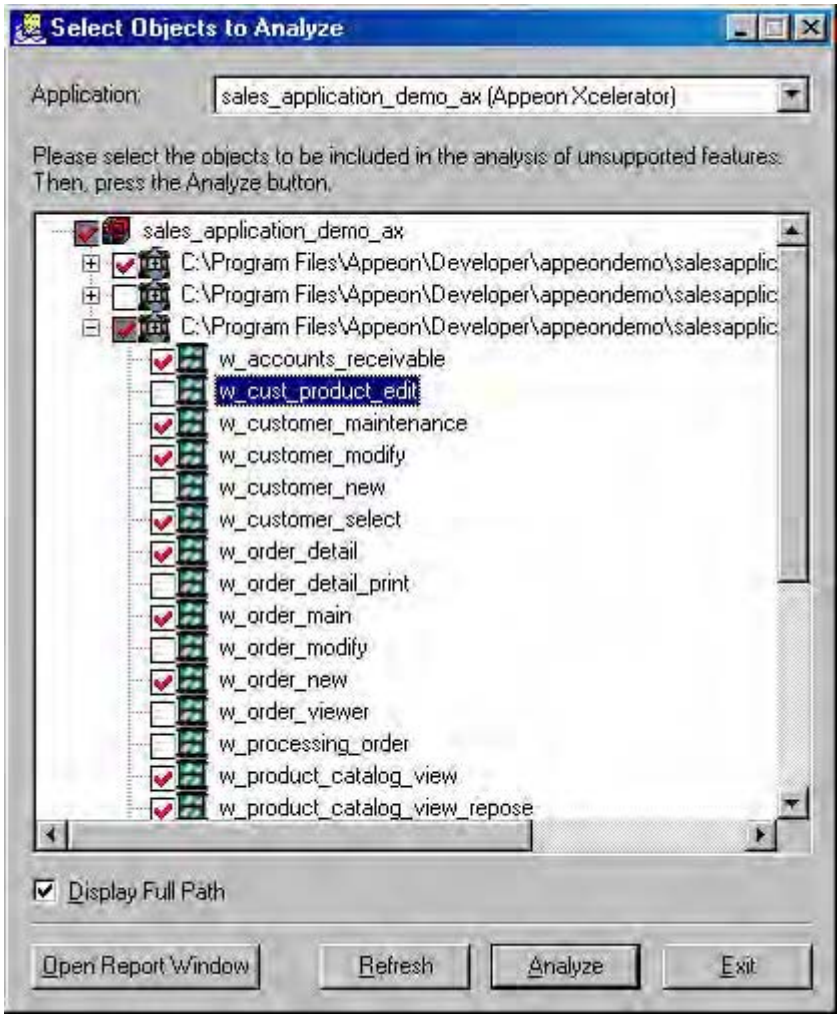
STEP 2 – Select "*sales_application_demo_ax* (Appeon Xcelerator)" from the Application dropdown list box. A TreeView of PBLs for the selected demo is displayed. Refer to Figure 6-9.

Note: Each demo will display only one entry in the list box, which is based on the current deployment option selected for the demo. For example, if you select the "Deploy with Appeon Xcelerator" option in the Application Profiles Properties tab page, "*sales_application_demo_ax* (Appeon Xcelerator)" is available in the list box for you to choose. If you select the "Deploy in Pure-JavaScript", "*sales_application_demo_ax* (Pure-JavaScript)" is listed in the list box.

STEP 3 – Click the plus signs to expand the listed PBLs for the objects.

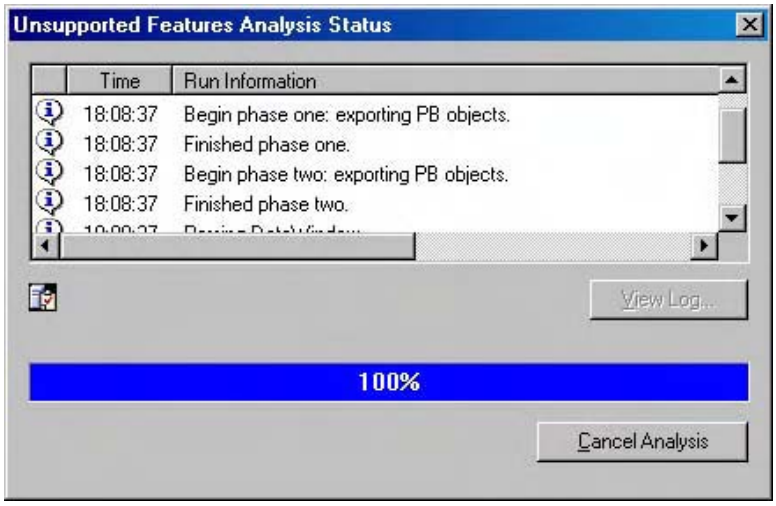
STEP 4 – Choose the PBLs and objects you want to analyze (by default, all existing PBLs and objects are selected.), and deselect those you do not want. Refer to Figure 6-10.

Figure 6-10: Select PBLs and objects to analyze



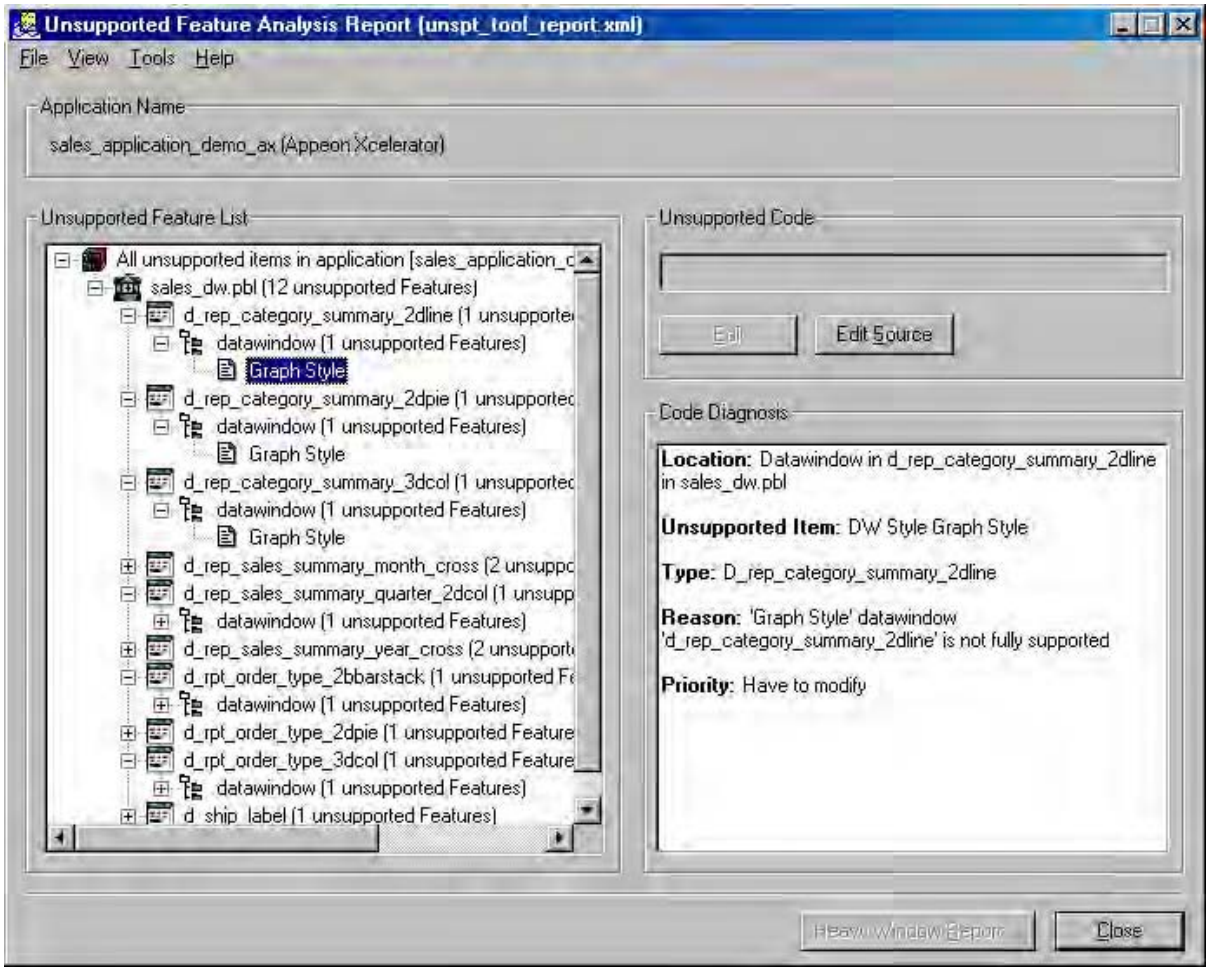
STEP 5 – Click the *Analyze* button. The feature analysis of the demo begins as shown in Figure 6-11.

Figure 6-11: Analysis Status window



STEP 6 – Analysis is complete. The Unsupported Feature Analysis Report window (UFA Report Window) is displayed as shown in Figure 6-12.

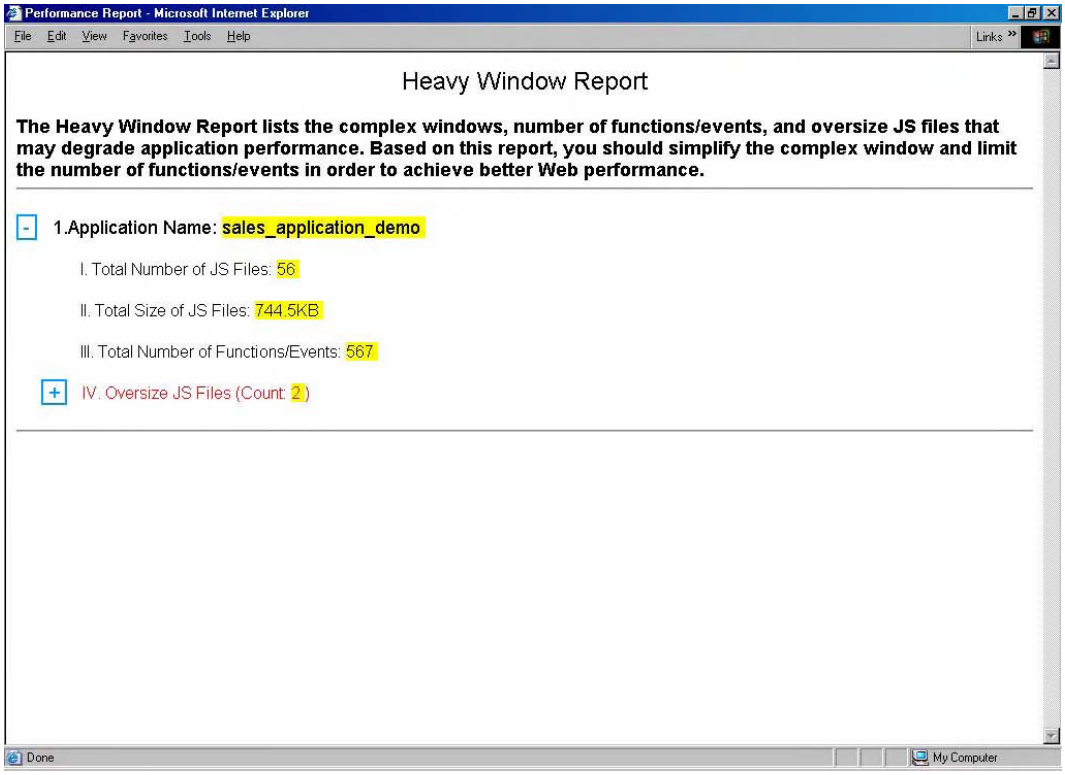
Figure 6-12: Unsupported Feature Analysis Report window



Expand the tree view items to view the generated UFA report for the unsupported objects. For more details on the UFA Report Window, refer to Section 6.2.3: *UFA Report Window that displays at the end of feature analysis* in the *Appeon Developer User Guide*.

STEP 7 – Click the *Heavy Window Report* button and the heavy window report displays as shown in Figure 6-13.

Figure 6-13: Heavy window report



Click the plus sign to expand items for more details of the heavy window report. For more details on how to work with Heavy Widow Report, refer to Section: *Working with Heavy Window Report* in the *Appeon Developer User Guide*.

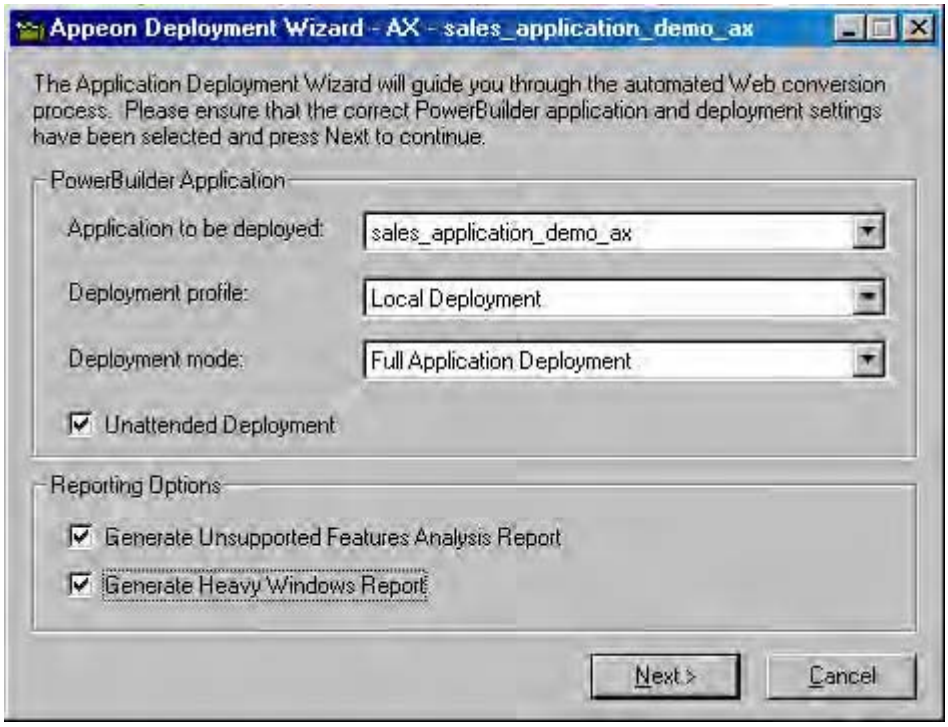
6.5 Deploy demos to the Web

Using the *Deploy* button (), you can specify a PowerBuilder application to be converted to a Web application.

To deploy the Sales Application Demo to Web:

STEP 1 – Click the *Deploy* button () on the Appeon Developer toolbar. The Appeon Deployment Wizard window displays as shown in Figure 6-14.

Figure 6-14: Appeon deployment wizard



STEP 2 – Select "*sales_application_demo_ax*" from the "Application to be deployed " dropdown list box. Select the deployment profile, deployment mode and other options for the deployment. For more information on Deployment Settings, refer to the *Appeon Developer User Guide*.

Note: Make sure you have selected the correct deployment option in the Application Profiles Configuration window for the application that you attempt to deploy.

STEP 3 – Click the *Next* button.

STEP 4 – Wait until the wizard completes the following three tasks.

Task 1: Application Source Code Export

Task 2: Web File Generation

Task 3: Web Deployment

When Task 3 is complete, the Web deployment report page is displayed. Refer to Figure 6-15.

Figure 6-15: Web deployment report

The following subjects are covered in the Web deployment report:

Deployment Information – a brief description of the Web deployment information: the name of the application deployed, as well as the deployment mode and profile used.

Deployment Task Status – the status and time of each deployment task as well as the total time for the automatic Web conversion.

Available Reports – the reports (Analysis, Incremental, and Heavy Window reports) generated from the conversion processes. Click the report buttons to view available reports.

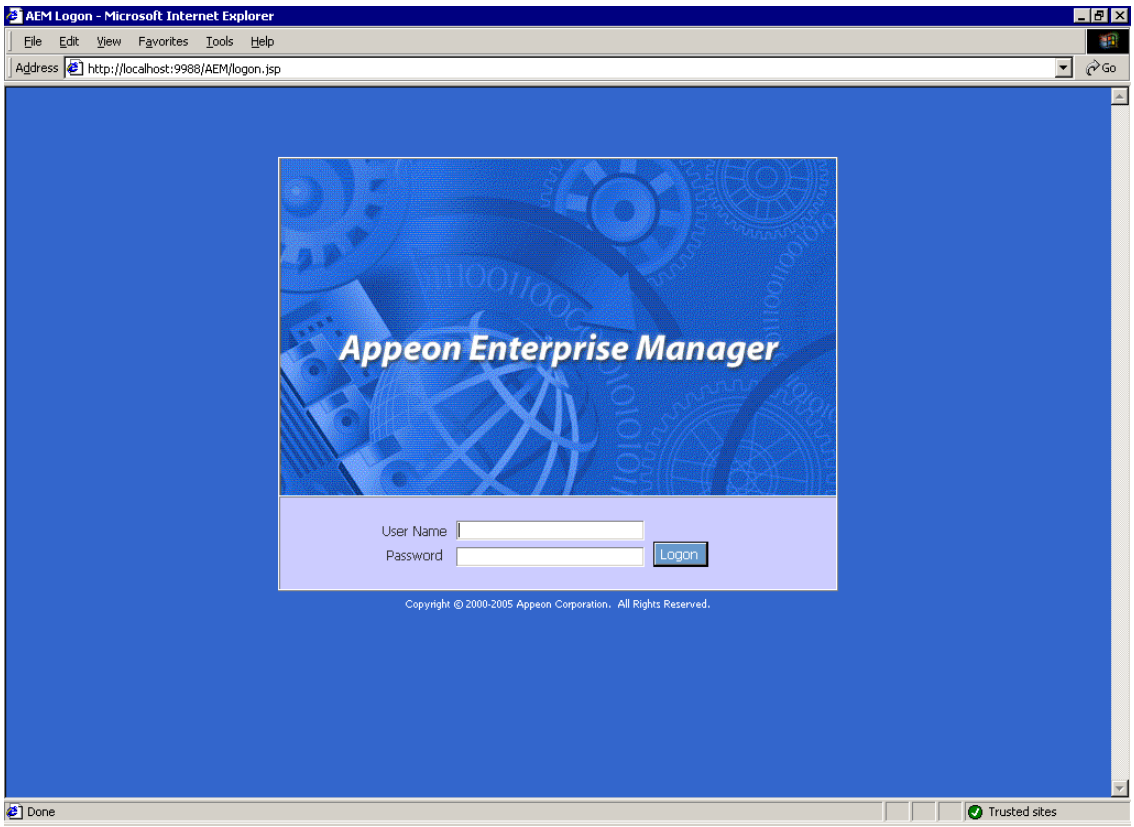
STEP 5 – Click *Finish* to exit or *Finish and Run* to run the deployed application.

6.6 Verify configuration of transaction objects in AEM

6.6.1 Set AEM URL in Appeon Developer configuration

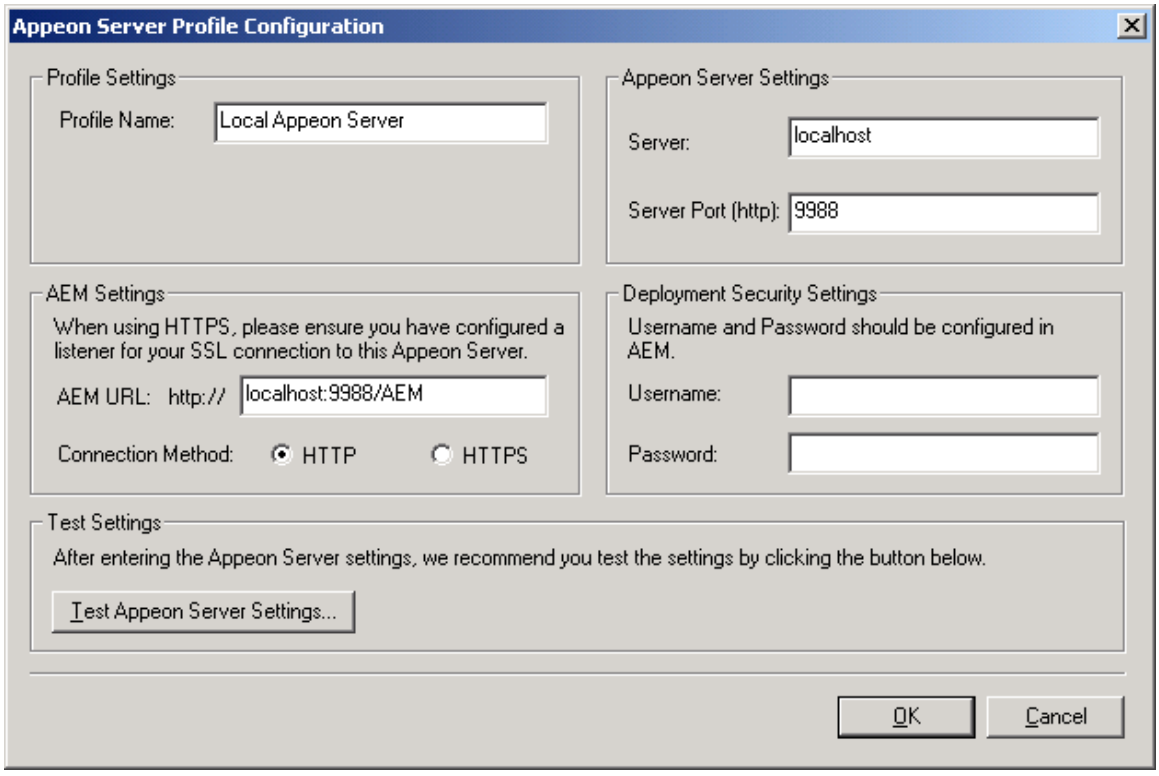
The *AEM* button launches the Web-based application Appeon Enterprise Manager (AEM). Click the *AEM* button ( ) on the Appeon Developer toolbar. The AEM login screen automatically displays in Internet Explorer. Refer to Figure 6-16.

Figure 6-16: AEM login screen



If the AEM Web page is not displayed, verify that the server IP is correct. The server IP (you may use localhost, IP address, or a machine name) must be directed to the server where Appeon Server is deployed. Refer to Figure 6-17.

Figure 6-17: AEM Settings in Appeon Developer Configuration



For more information on setting the correct URL, refer to the *Appeon Enterprise Manager User Guide*. For more information on using Appeon Developer, refer to the *Appeon Developer User Guide*.

6.6.2 Launch AEM and look into Application Properties

Once the Appeon Enterprise Manager login screen is loaded successfully, enter a valid username and password (The username and password are those you specified when installing Appeon Server. If you did not specify the username and password during the installation, you can use the default "admin" as the username and password to log into AEM.). Click the *Logon* button. The AEM start page will display when the login is successful.

The start page contains two sections. The section on the left provides a TreeView to navigate the various AEM tools. The section on the right displays the tools and a brief introduction to each one. You can access an AEM tool by clicking on the item in the TreeView or by clicking the hyperlink in the introduction frame.

Begin using AEM by accessing Application Properties. Click on the *Application Properties* link in the TreeView or in the introduction frame.

Application Properties is a set of tools for viewing and modifying all configurable Appeon Server settings. There are six tools: Transaction Objects, Charset, Display, Application Server Cache, DataWindow Data Cache, and Custom Libraries. A brief introduction to each tool is located on the Application Properties start page. For more information on the tools in Configuration Assistant, refer to the *Appeon Enterprise Manager User Guide*.

6.6.3 Check transaction objects mapping

A transaction object is used for connecting PowerBuilder applications to a database. When the PowerBuilder application is moved onto the Web, Appeon Server (EAServer extended with Appeon Server) establishes a connection to the database using connection caches. Each transaction object in the application must be mapped to a connection cache that is configured to connect to the database used by the PowerBuilder application.

There are two methods for mapping transactions objects to connection caches:

- Dynamic Transaction object to connection cache mapping via PowerScript.
- Static Transaction object to connection cache mapping in AEM. The mapping in PowerScript has priority over the static mapping in AEM.

For more information on the transaction objects mapping, refer to the *Appeon Migration Guide* and the *Appeon Enterprise Manager User Guide*.

Transaction object mapping for the demos is static (Transaction object to connection cache mapping) in AEM. You can view the configuration of transaction objects in Transaction Objects of Application Properties in AEM. Do not change this setting for the demo Web applications or they will not work. Refer to Figure 6-18.

Figure 6-18: Transaction object settings in AEM

7 Viewing Web Demo Applications

You can only run a demo Web application that has been deployed to the Web server by the Appeon Deployment Wizard. Before running the Web demos, make sure that EAServer has been started (For details on starting EAServer, refer to Section 2.5: *Start Appeon Server*).

7.1 Run Appeon Sales Application on Web

Appeon Sales Application Demo is a Web application that was converted from a complex PowerBuilder application described in Chapter 3: *Running Sales Application Demo*.

This section describes how to run Appeon Sales Application Demo on the Web and does not provide a detailed description of the Web application since the functionality of the Web application is almost identical to the PowerBuilder application. Examples and screenshots given in the following sections are based on the *sales_application_demo_ax* with the Appeon Xcelerator deployment option.

7.1.1.a Launch the Web application

STEP 1 – Access the Web application using one of the following methods:

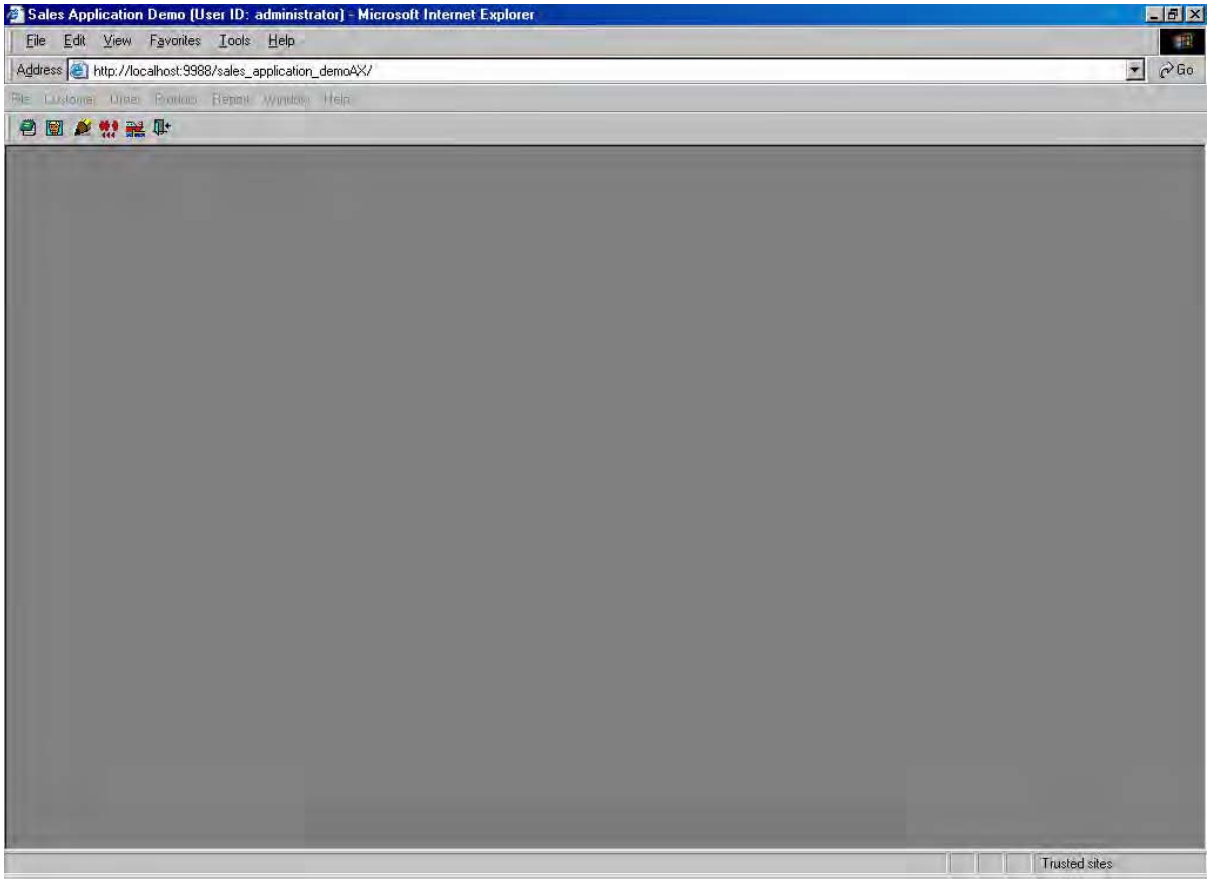
Method 1: From the computer where Appeon Developer is installed, choose Windows Start | Programs | Appeon 3.1 for PowerBuilder | Appeon Demos | Appeon Sales App Demo (AX). The demo is automatically loaded in Internet Explorer.

Method 2: Click the *Run Web App* () button in the Developer toolbar and select "*sales_application_demo_ax*".

STEP 2 – Login to the Web application using the default User ID and password. If you changed the password in the PowerBuilder Sales Application Demo, use the same User ID and Password you used for the PowerBuilder application. Refer to Figure 7-1 and Figure 7-2.

Figure 7-1: Sales Application Demo Web login window

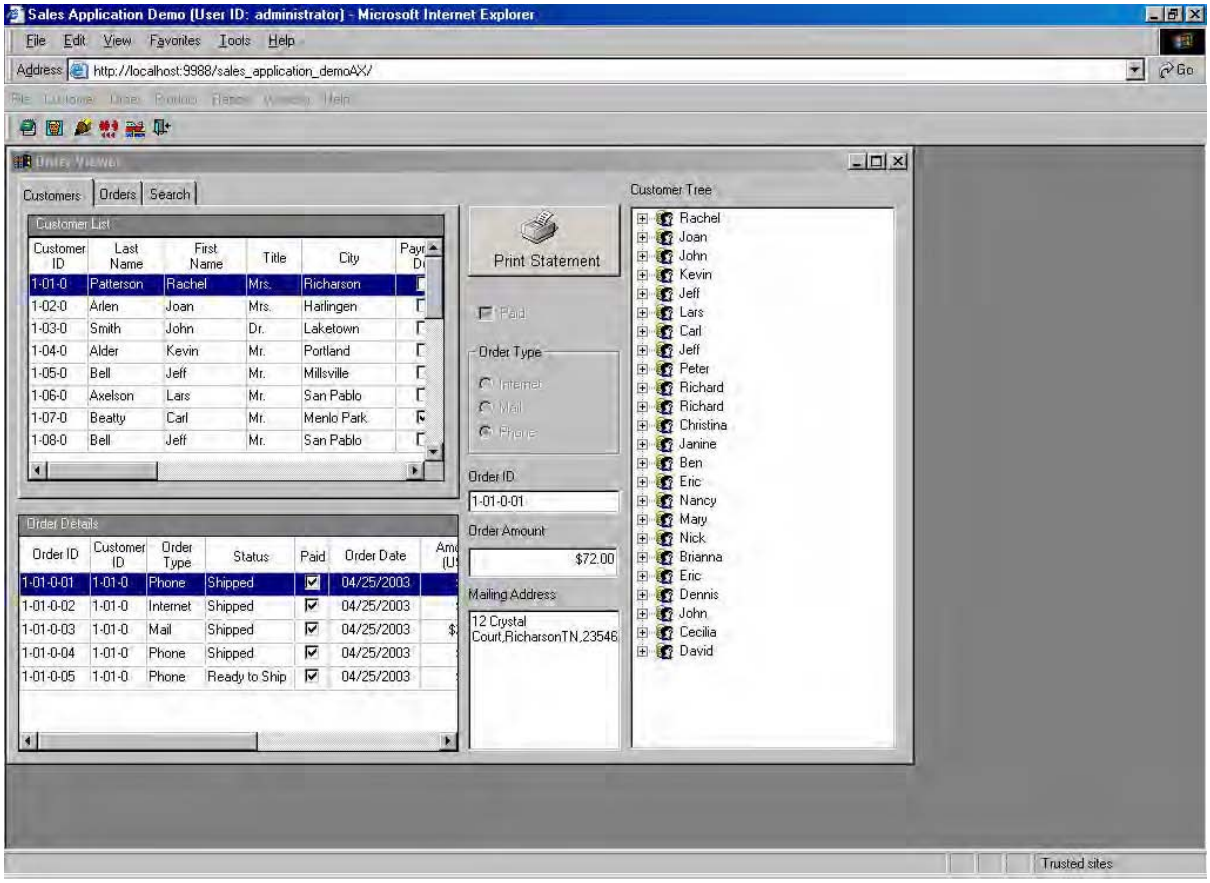
Figure 7-2: Sales Application Demo on Web



Note: The menu below the Internet Explorer address bar is the demo menu, **NOT** the Internet Explorer menu.

STEP 3 – Explore the Web application. For example, clicking the Order Viewer icon on toolbar displays the Order Viewer window as shown in Figure 7-3. The Order Viewer window contains almost everything that Appeon 3.1 for PowerBuilder supports, from various DataWindow styles to advanced controls such as Tab, TreeView, and ListView.

Figure 7-3: Order Viewer window in the Web Sales Application Demo



7.2 Run Appeon Code Examples on Web

Appeon Code Examples is a Web application that was converted from a complex PowerBuilder application described in Chapter 4: *Running Appeon Code Examples*.

This section describes how to run Appeon Code Examples on the Web and does not provide a detailed description of the Web application since the functionality of the Web application is nearly identical to the PowerBuilder application. Examples and screenshots given in the following sections are based on the *appeon_code_examples_ax* with the Appeon Xcelerator deployment option.

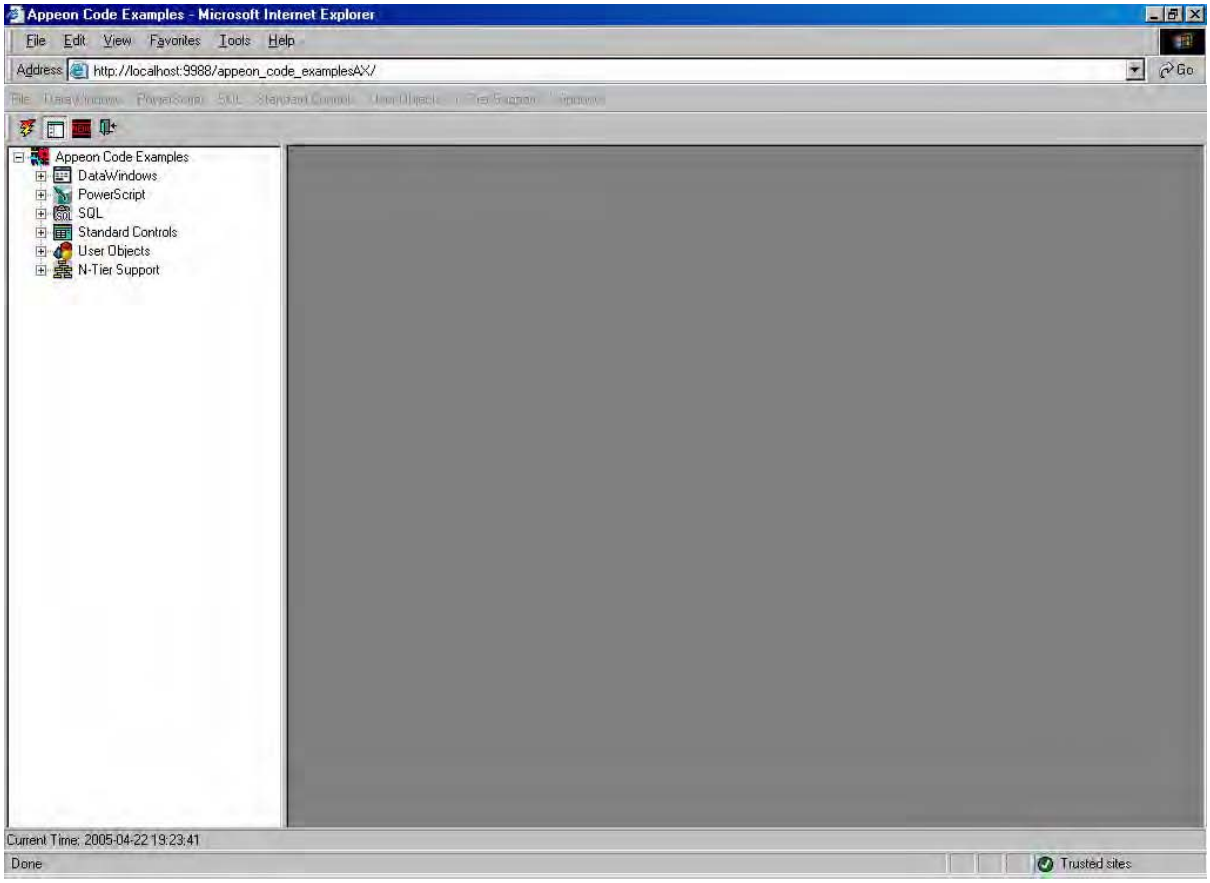
7.2.1.a Launch the Web application

Launch the Web Appeon Code Examples demo using one of the following methods.

Method 1: From the computer where Appeon Developer is installed, choose Windows Start | Programs | Appeon 3.1 for PowerBuilder | Appeon Demos | Appeon Code Examples (AX). The demo is automatically loaded in Internet Explorer.

Method 2: Click the *Run Web App* ( ) button in the Developer toolbar and select "*appeon_code_examples_ax*" and the intended deployment option. Refer to Figure 7-4.

Figure 7-4: Appeon Code Examples on Web



7.3 Run ACF Examples on the Web

Appeon ACF Examples is a Web application that was converted from a complex PowerBuilder application. This section will not provide a detailed description of the Web application since the functionality of the Web application is nearly identical to the PowerBuilder application. Refer to Chapter 5: *Running ACF Examples*, to see how the Appeon ACF Example operates.

Appeon Code Examples is a Web application that was converted from a complex PowerBuilder application described in Chapter 4: *Running Appeon Code Examples*.

This section describes how to run Appeon Code Examples on the Web and does not provide a detailed description of the Web application since the functionality of the Web application is nearly identical to the PowerBuilder application (refer to Chapter 4: *Running Appeon Code Examples*, for instructions about running the Appeon Code Examples application on the Web). Examples and screenshots given in the following sections are based on the "*appeon_code_examples_ax*" with the Appeon Xcelerator deployment option.

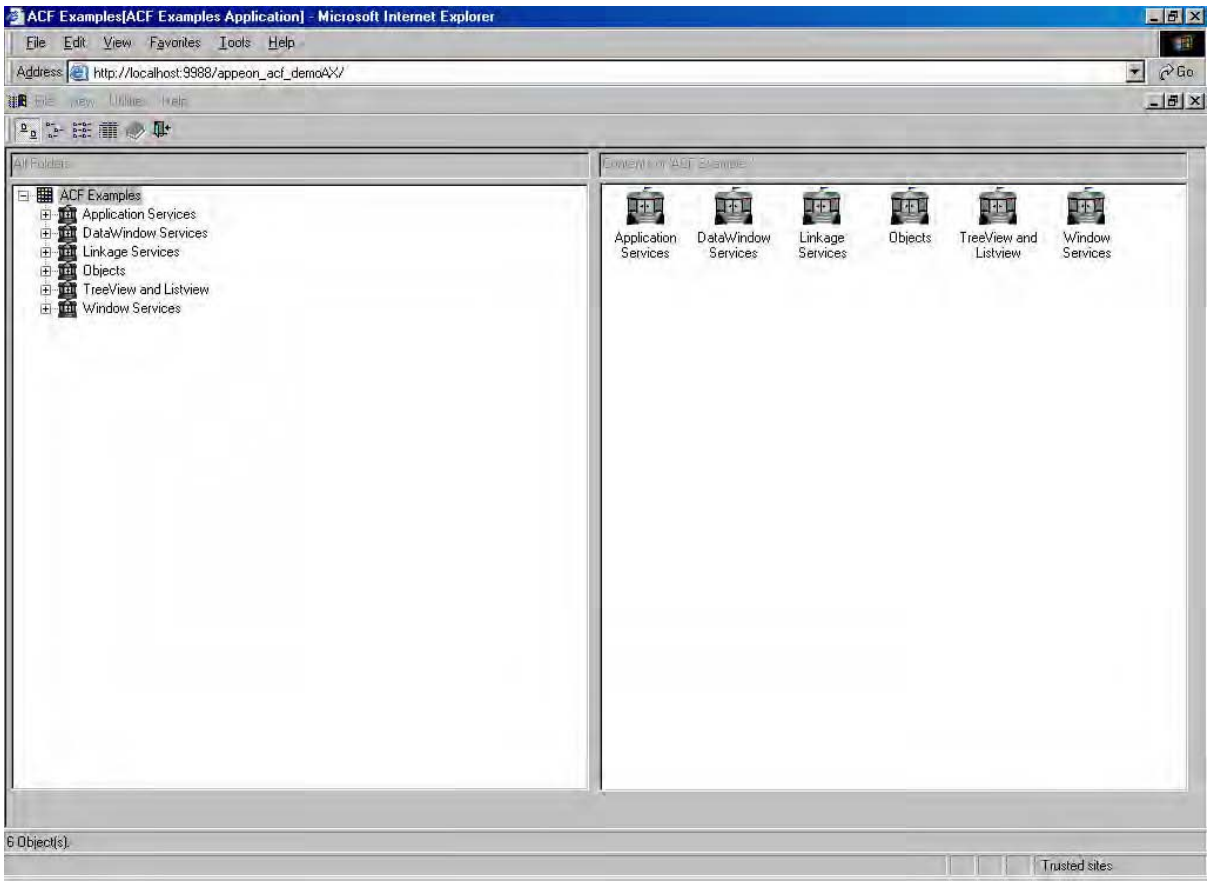
7.3.1.a Launch the Web application

Access the Web application using one of the following methods:

Method 1: From the computer where Appeon Developer is installed, choose Windows Start | Programs | Appeon 3.1 for PowerBuilder | Appeon Demos | Appeon ACF Example (AX). The demo will be automatically loaded in Internet Explorer.

Method 2: Click the *Run Web App* (⚡) button in the Developer toolbar and select "*appeon_acf_demo_ax*" with the intended deployment option. Refer to Figure 7-5.

Figure 7-5: Appeon ACF Demo on Web



7.4 Web Enhancements

7.4.1 Appeon DataWindow Menu

7.4.1.a Enabling the Appeon DataWindow Menu

Appeon 3.1 for PowerBuilder does not provide the "Appeon DataWindow right mouse button menu enabled" option in AEM for the user to enable or disable the Appeon DataWindow Menu in Appeon demo applications deployed in Pure-JavaScript or Appeon Xcelerator. However, the user can still add this feature for deployed demo applications by using the following two PowerBuilder global functions: AppeonPopMenu and AppeonPopMenuOn. These functions apply to both the Pure-JavaScript and Appeon Xcelerator deployments, and are both located in Appeon_workarounds_js.pbl (for Pure-JavaScript deployment) and Appeon_workarounds_ax.pbl (for Appeon Xcelerator deployment). For more information on how to take advantage of the functions in a DataWindow, refer to the *Appeon Migration Guide*.

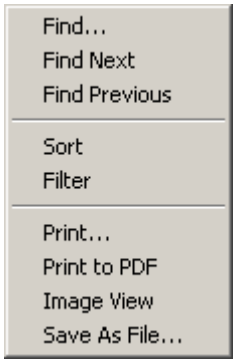
7.4.1.b Working with Appeon DataWindow menu

1. If the DataWindow presentation style is Composite, Freeform, Grid, Group, or Tabular, the items in the pop-up menu are Find, Find Next, Find Previous, Sort, Filter, Print (only available in Appeon Xcelerator deployments), Print View (or Print to PDF in Appeon

Xcelerator deployments), Image View, and Save As File, as shown in Figure 7-6 and Figure 7-7.

Figure 7-6: Appeon-enhanced features for HTML DataWindows in Pure-JavaScript deployments

Figure 7-7: Appeon-enhanced features for HTML DataWindows in Appeon Xcelerator deployments



Find – You can set criteria for finding specific data in a DataWindow. The first row matching the search criteria will be highlighted.

Find Next/ Find Previous – You can find the next row or the pervious row that matches the search criteria entered in the Find dialog box.

Sort – Sorts information by column in ascending or descending order.

Filter – Filters information using functions and selecting columns.

Print (only available in Appeon Xcelerator deployments) – Prints DataWindows directly to printers installed at the Client.

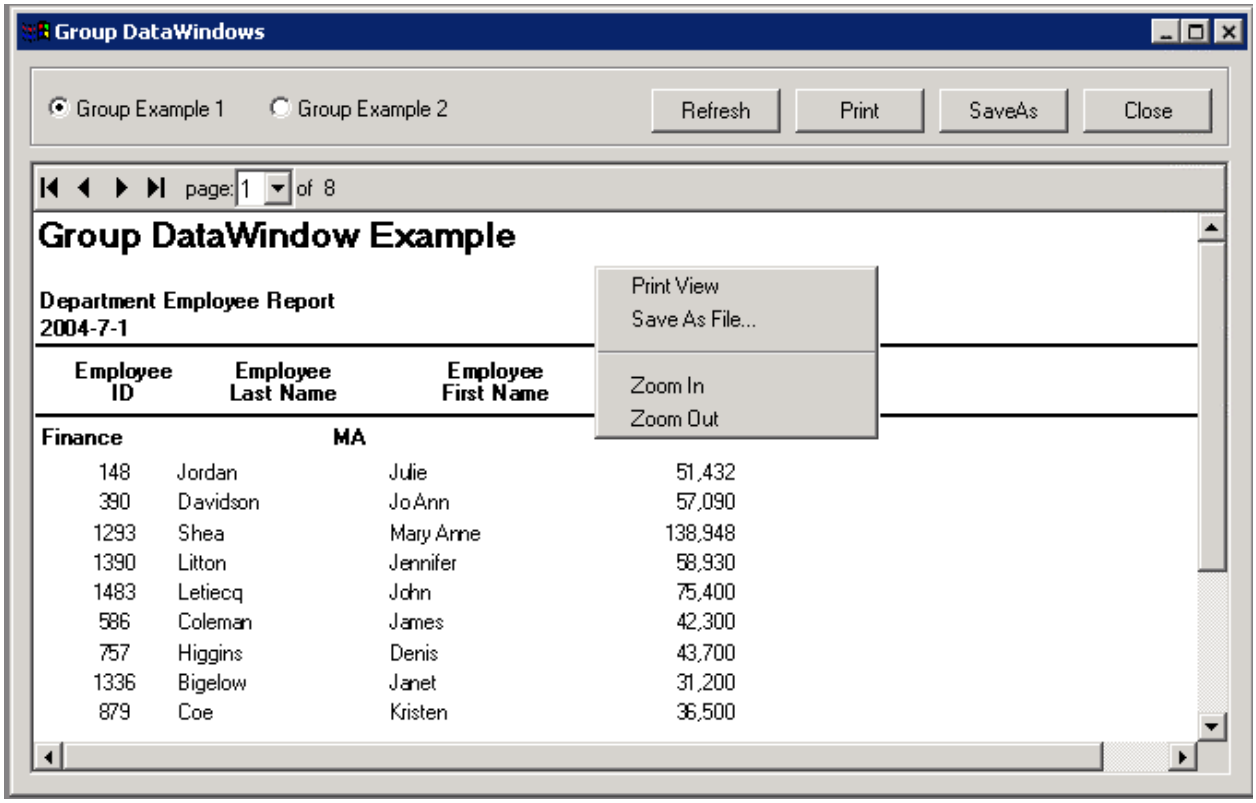
Print View (or Print to PDF) – Prints DataWindows in PDF.

Image View – You can view the GIF image of a DataWindow.

Save As File – Saves DataWindow data in Windows Metafile, text, Microsoft Excel or HTML table format.

2. If the DataWindow presentation style is CrossTab, Graph, Label, or N-Up, the items in the pop-up menu are Print View (or Print to PDF in Appeon Xcelerator deployments), Save As File, Zoom In, and Zoom Out, as shown in Figure 7-8.

Figure 7-8: Appeon-enhanced features for Image DataWindows in Pure-JavaScript deployments

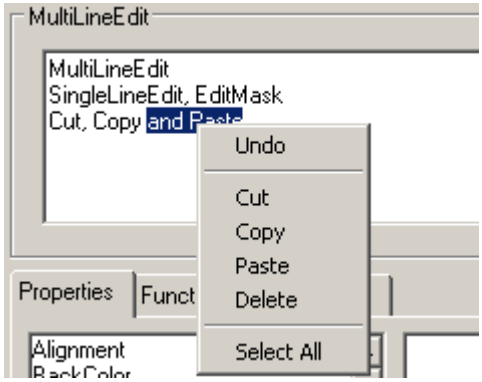


7.4.2 RMB menu on editable controls

There is an Appeon pop-up menu for Web editing boxes (for example, SingleLineEdit control, and MultiLineEdit control) with three menu items - Cut, Copy, and Paste.

In the Web MultiLineEdit control, you can also drag and drop the selected text.

Figure 7-9: Popup menu for edit box



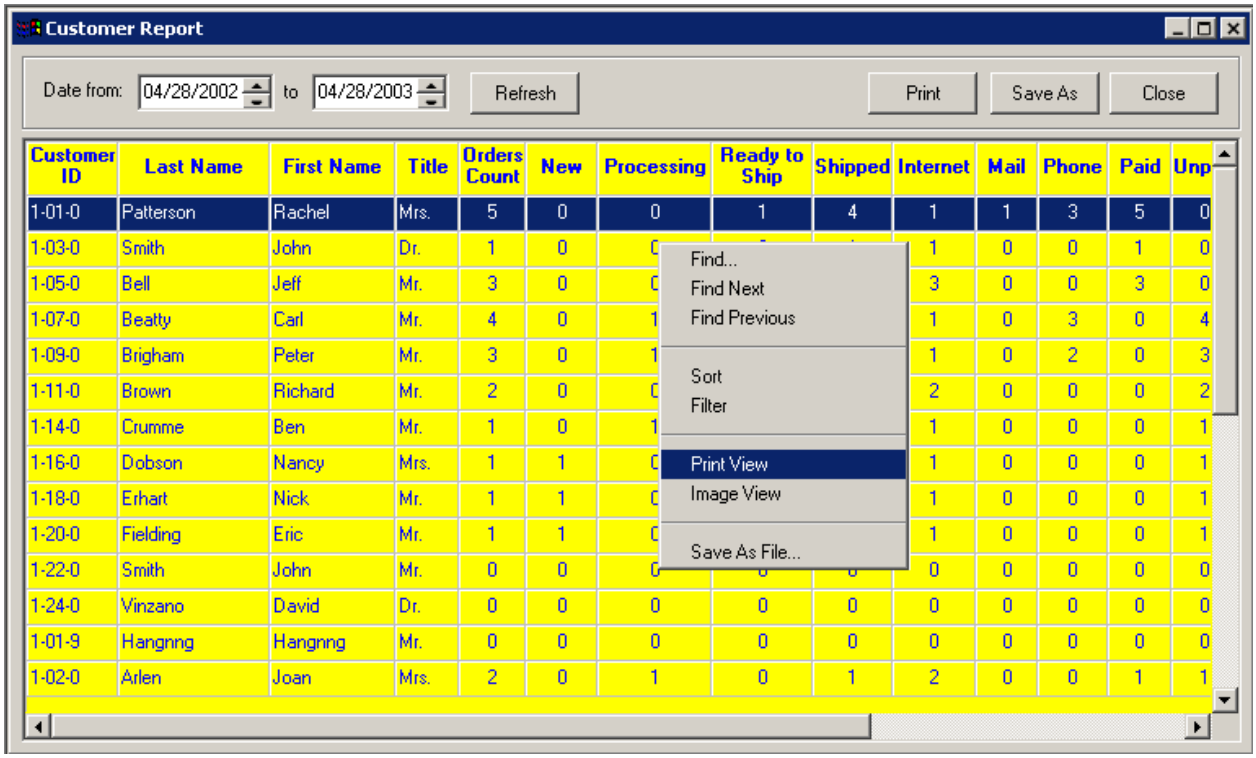
7.4.3 DataWindow Printing

7.4.3.a PDF Printing

PDF printing is supported for the deployed Web applications. You can print supported deployed DataWindows as a PDF file while viewing the application on the Web by performing the following steps.

STEP 1 – Right-click on a DataWindow control; a pop-up menu appears, as shown in Figure 7-10.

Figure 7-10: Print View (or Print to PDF) menu in HTML DataWindows

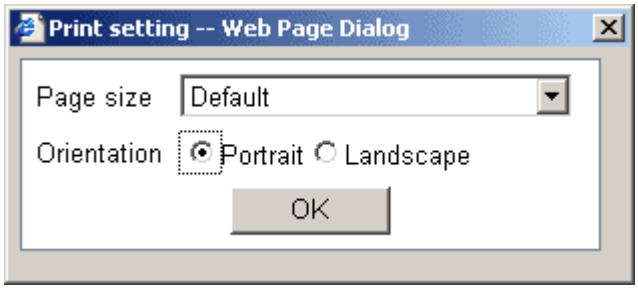


Customer ID	Last Name	First Name	Title	Orders Count	New	Processing	Ready to Ship	Shipped	Internet	Mail	Phone	Paid	Unp
1-01-0	Patterson	Rachel	Mrs.	5	0	0	1	4	1	1	3	5	0
1-03-0	Smith	John	Dr.	1	0	0			1	0	0	1	0
1-05-0	Bell	Jeff	Mr.	3	0	0			3	0	0	3	0
1-07-0	Beatty	Carl	Mr.	4	0	1			1	0	3	0	4
1-09-0	Brigham	Peter	Mr.	3	0	1			1	0	2	0	3
1-11-0	Brown	Richard	Mr.	2	0	0			2	0	0	0	2
1-14-0	Crumme	Ben	Mr.	1	0	1			1	0	0	0	1
1-16-0	Dobson	Nancy	Mrs.	1	1	0			1	0	0	0	1
1-18-0	Erhart	Nick	Mr.	1	1	0			1	0	0	0	1
1-20-0	Fielding	Eric	Mr.	1	1	0			1	0	0	0	1
1-22-0	Smith	John	Mr.	0	0	0			0	0	0	0	0
1-24-0	Vinzano	David	Dr.	0	0	0	0	0	0	0	0	0	0
1-01-9	Hangning	Hangning	Mr.	0	0	0	0	0	0	0	0	0	0
1-02-0	Arlen	Joan	Mrs.	2	0	1	0	1	2	0	0	1	1

STEP 2 – Select “Print View” (or “Print to PDF” in Appeon Xcelerator deployments) from the pop-up menu to view a deployed DataWindow in PDF, as shown in Figure 7-10.

A Web dialog box appears, prompting you to select the page size and orientation settings, as shown in Figure 7-11. Click *OK*.

Figure 7-11: Print Setting



A PDF Repository window is displayed at the right bottom corner of the Internet Explorer window, as shown in Figure 7-12 and Figure 7-13.

You may print several PDF files at the same time. All the printed documents are listed in order of time. Select the PDF file you would like to print. It is then loaded into a separate Internet Explorer window using the Adobe Acrobat plug-in. You can view the history of all the printed documents at any time. You can also delete them from the history.

In Pure-JavaScript deployments, the position of the PDF Repository is fixed at the bottom right corner of the browser. You can minimize the PDF Repository, and display it again by clicking the text “PDF Repository”.

In Appeon Xcelerator deployments, you can move the PDF Repository window around the Internet Explorer window, minimize it to an icon in the task bar, and click the icon in the task bar to open the window again. You can also close it. When you select the "Print to PDF" menu again in the same running application, the PDF Repository window will be opened with a history of each document that has been printed. You can save the printed PDF file to the local machine by right-clicking the link to the PDF file in the PDF Repository window and selecting Save Target As from the popup menu.

If the window containing the printed DataWindow is a response window, you cannot move the focus to the PDF Repository window or select the printed file there unless you release the focus first by closing the response window.

Figure 7-12: Print PDF file in Pure-JavaScript deployments

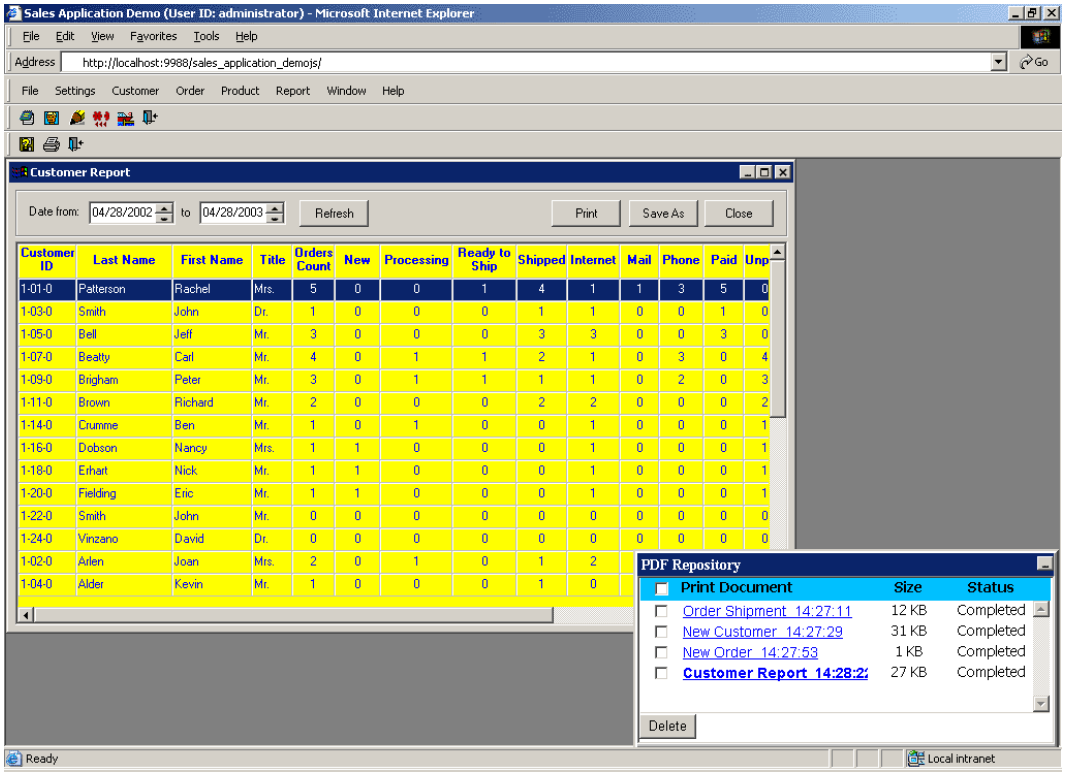
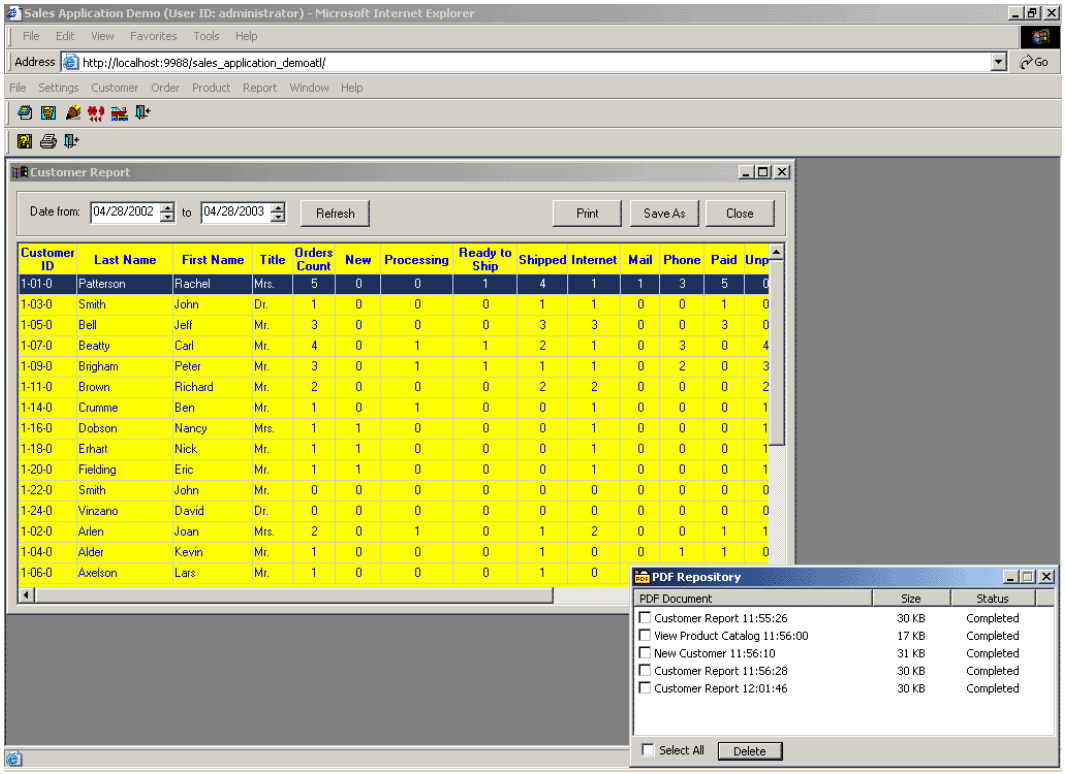


Figure 7-13: Print PDF file in Appeon Xcelerator deployments

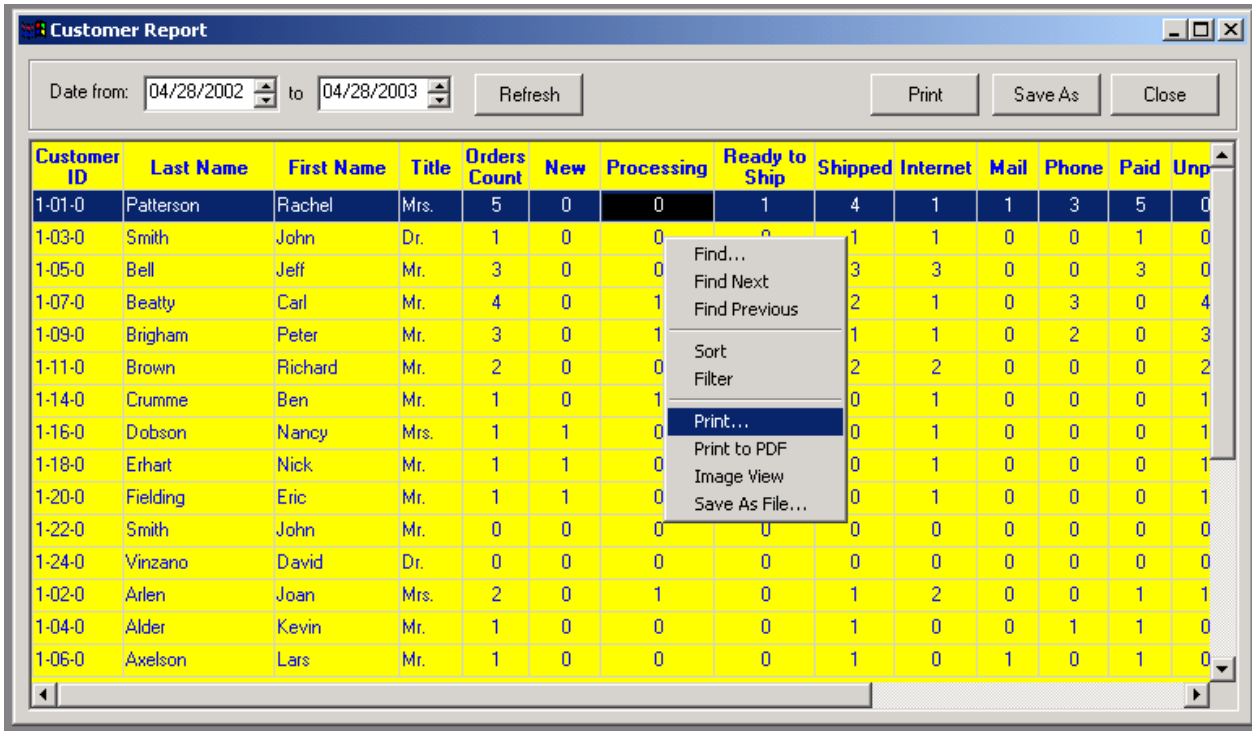


7.4.3.b Print

In Appeon Xcelerator deployments, the user has an extra Print menu. With this menu the user can print DataWindows directly to printers installed at the Client.

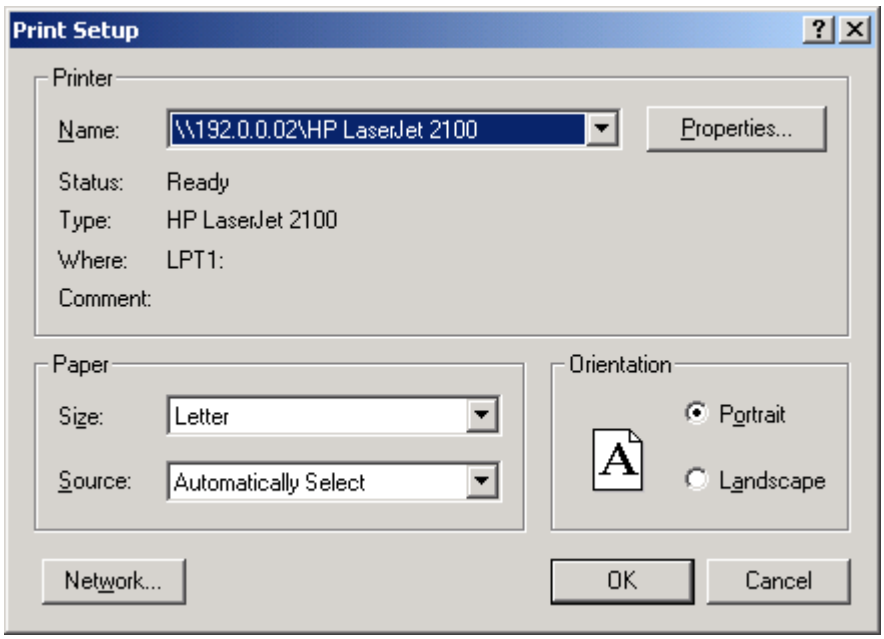
STEP 1 – Select "Print" from the popup menu, as shown in Figure 7-14.

Figure 7-14: Print file with physical printers



STEP 2 – Specify the printer settings and paper settings in the Print Setup window, as shown in Figure 7-15. Click *OK* and the DataWindow will be printed using the local printer.

Figure 7-15: Print setup window



7.4.4 Refresh Web Applications

By clicking the *Refresh* button in the Internet Explorer toolbar to refresh the current page of a Web application, the application will be reloaded into the browser. By clicking the *Refresh* button, the Web application will be reloaded into Internet Explorer. This Refresh feature works the same in both the Pure-JavaScript and the Appeon Xcelerator deployments. Refer to Figure 7-16 and Figure 7-17.

Figure 7-16: Refresh on the web (Before clicking the Refresh button)

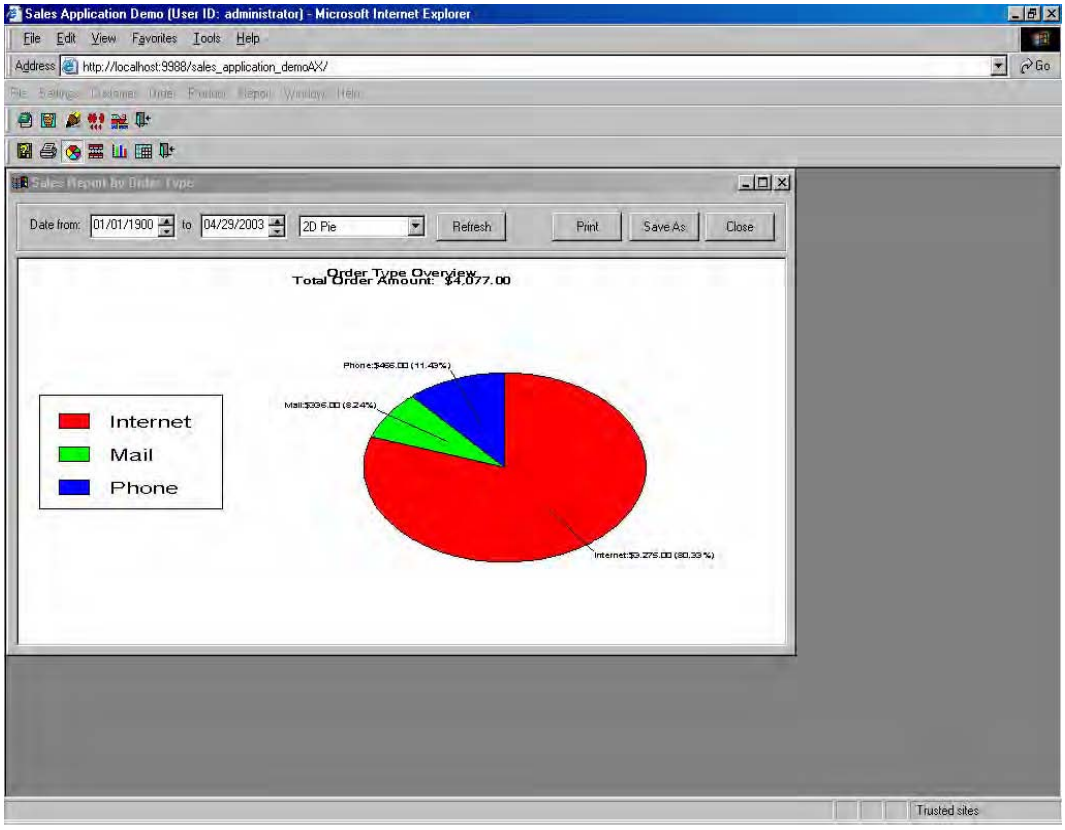


Figure 7-17: Refresh on the web (After clicking the Refresh button)

7.4.5 Closing MDI and SDI windows on the Web

1. If an application is an MDI application, when the application is deployed in Pure-JavaScript and the user closes the MDI window, the Internet Explorer browser will close at

the same time, but with Appeon Xcelerator, only the Web application will exit from the Internet Explorer, leaving a blank page in Internet Explorer. Refer to Figure 7-18 and Figure 7-19.

Figure 7-18: Closing MDI window on the Web

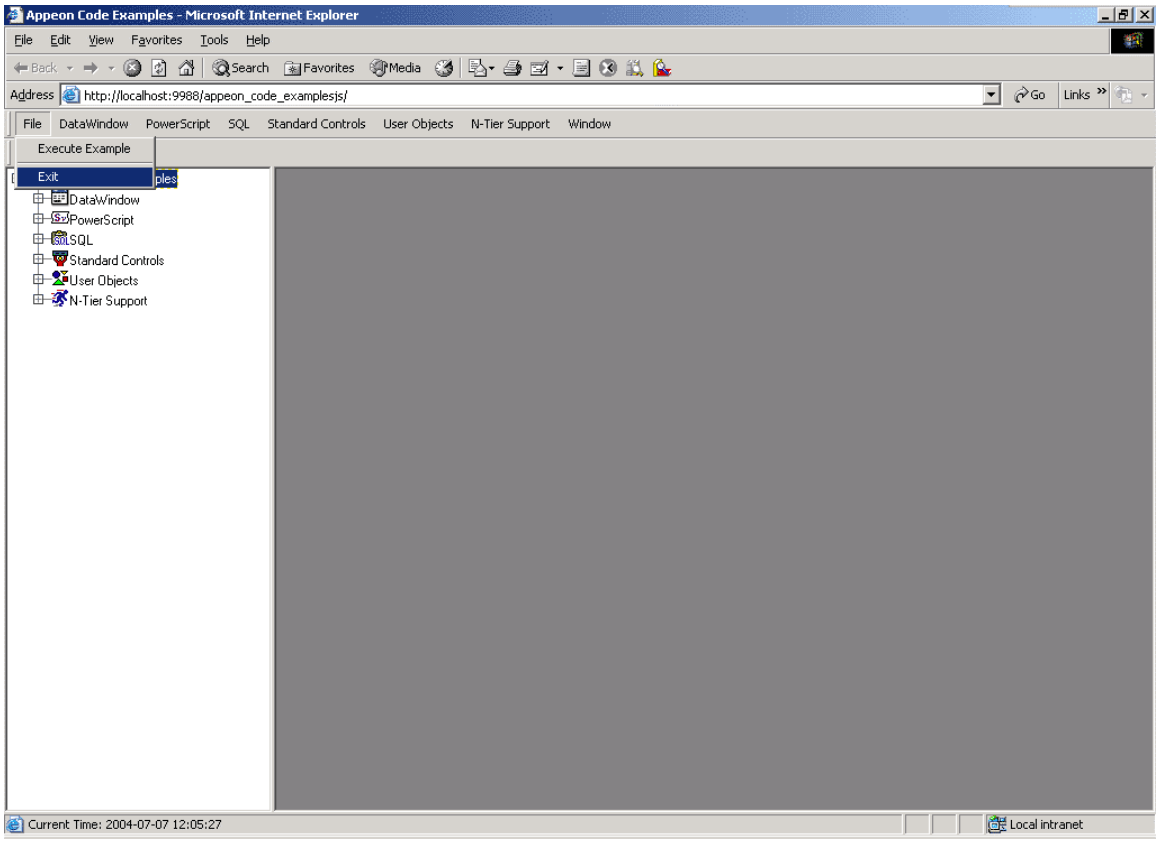
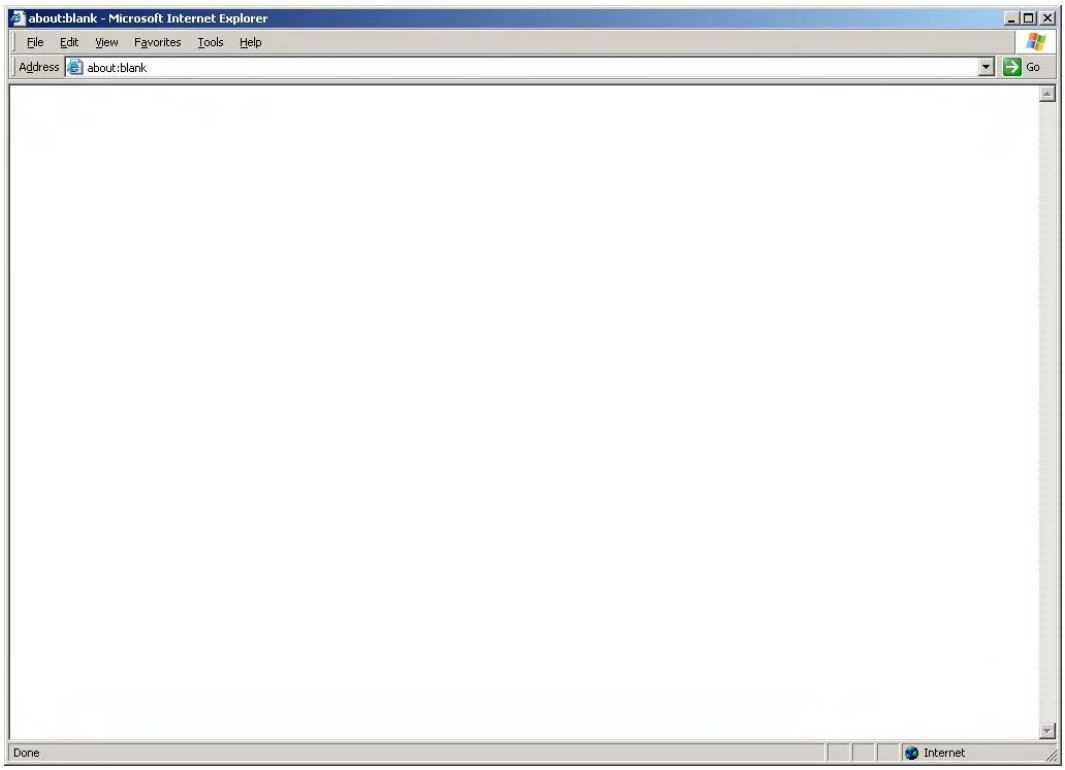


Figure 7-19: Blank page after closing the MDI window (for Appeon Xcelerator deployment)



2. If an application is an SDI application, regardless of whether the application is deployed in Pure-JavaScript or with Appeon Xcelerator, when the user closes the SDI window, only the application exits but the Internet Explorer browser does not close and remains a blank page. Refer to Figure 7-20 and Figure 7-21.

Figure 7-20: Closing an SDI application

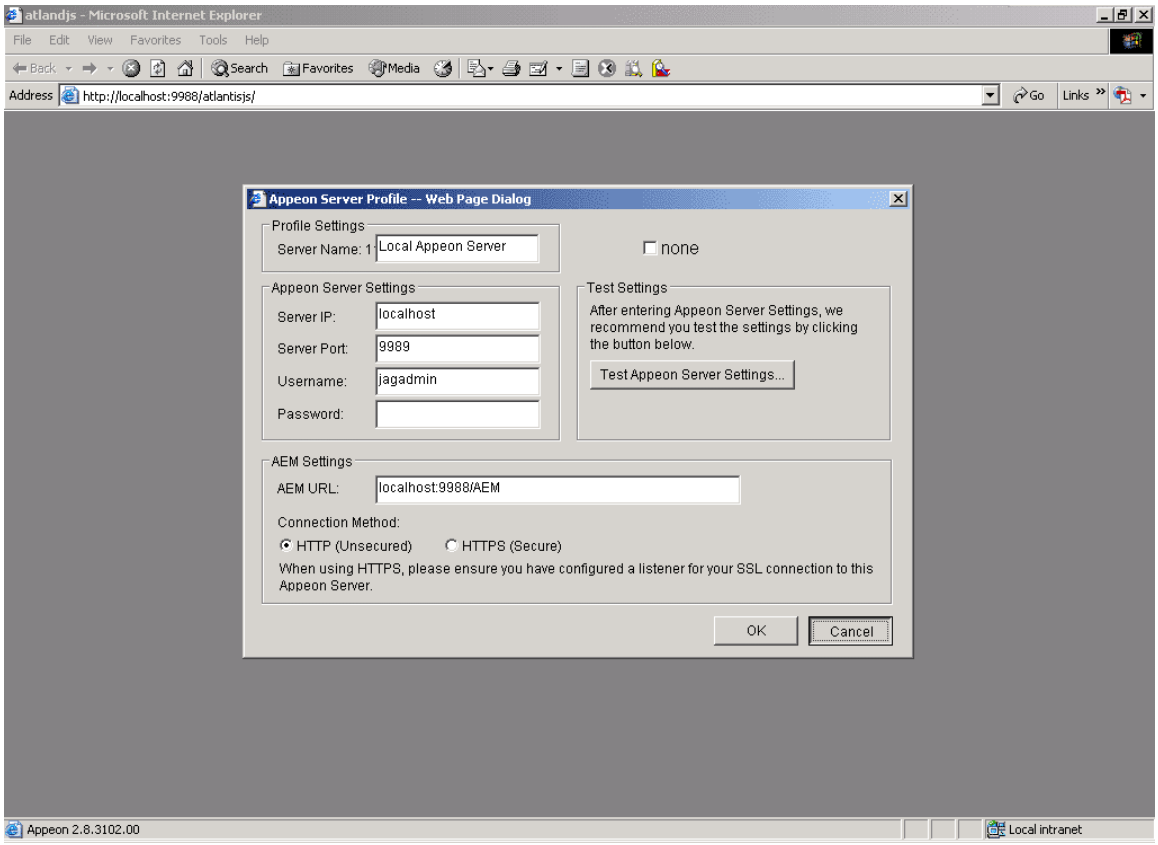
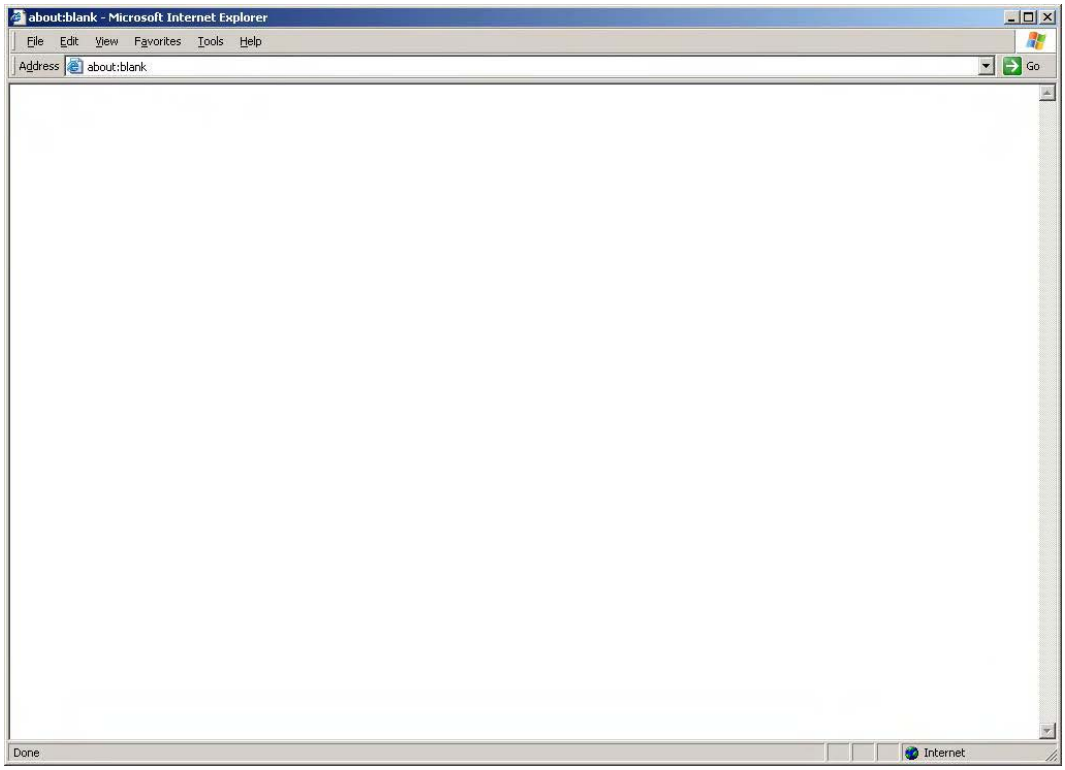


Figure 7-21: After closing an SDI application



For more information on Appeon enhancements and differences, refer to *Application enhancements and differences* in *Appeon Help*.

Index