



HP Exstream

Version 6.1 - 7.0

Course 101: **Introduction to HP Exstream**

STUDENT GUIDE

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Course overview

Course description

This three-day course is the starting point for all HP Exstream training. The course provides an overview of HP Exstream and includes hands-on experience to get you started creating simple, personalized customer communications. You identify communication requirements in job-relevant scenarios and learn how to use HP Exstream to create various personalized communications to meet these requirements.

Course goals

Upon completion of this course, you should be able to do the following:

- ◆ Identify how HP Exstream can be used as a single solution for multi-channel presentation.
- ◆ Use HP Exstream to fulfill common personalized communication requirements by creating and producing:
 - Business correspondence
 - Policies
 - Flyers and forms
 - Statements and invoices
 - Troubleshoot common HP Exstream data, design, and production issues
 - Access and use on-screen HP Exstream documentation

Audience

This course is useful for individuals requiring a basic understanding of how to use HP Exstream to meet their enterprise personalization communication needs.

Prerequisites

Working knowledge of Microsoft Windows and mouse navigation. Experience using other publishing applications, such as Microsoft Word or PowerPoint, is helpful.

Course design

This course consists of a series of instructional modules that correspond to the course goals. Each module includes exercises and discussions to provide you with opportunities to acquire hands-on experience.

Module 1: Getting started in HP Exstream

This module provides you with a brief introduction and overview of the HP Exstream interface. You will also learn about the HP Exstream architecture, operating environments, suites and modules, and the process for creating HP Exstream applications.

Module 2: Creating a business correspondence document

This module provides you with a fundamental introduction to the tools you must use to create HP Exstream applications. Through demonstration and practical exercises, you build simple automated documents that combine variables, data files, pages and documents to create a customized document.

Module 3: Creating statements and invoices

This module provides you with a greater foundation in the advanced features of HP Exstream tables, charts, messages, and campaigns. Through demonstration and practical exercises, you build tables that automatically add rows based on customer information. You also create charts that utilize formulas to calculate and display customized content for each customer. Finally, you learn how to add messages and campaigns to your documents to take advantage of whitespace.

Module 4: Creating policies

This module provides you with the details of mapping data files and formatting your documents for optimal use and controlled development. You build documents that utilize advanced text formatting, flow pages, paragraphs, sections, and style sheets.

Module 5: Creating flyers and forms

This module provides you with an understanding of how to use HP Exstream drawing tools to create attractive documents. You also learn how to utilize design and language layers to create automated documents with mass distribution potential.

Module 6: Addressing issues and finding solutions

This module explains the tools you use to troubleshoot problems you might encounter with your documents. You learn how to troubleshoot design, data, and production issues.

Course scenario

Welcome to Vivanet! Throughout this course you will work as a member of the Vivanet communications team. You receive requests for support which require you to do the following:

- ♦ Plan and analyze business requirements.
- ♦ Create or review data.
- ♦ Design and produce HP Exstream communications.



About Vivanet

Vivanet Communications is a market leader that provides local, long distance, wireless, Internet access, communication and data services, to business and residential customers across the Midwest.

Recently, Vivanet installed HP Exstream on several IT, Sales, and Marketing workstations. Previously, each department created and managed communications using several different systems that no longer meet the organization's requirements.

Your responsibilities

Using HP Exstream, you must do the following:

- ♦ Develop and produce internal and external communications.
- ♦ Produce sample and final layouts for print or end use.

Course conventions

The following conventions are used in this course:



The glasses indicate the start of a demonstration by the instructor.



The computer indicates the start of an exercise.



The question mark indicates the start of a list of discussion or quiz questions.



The exclamation point indicates a warning or other important information that can help you help you avoid a negative result, such as a loss of data, formatting error, or system crash.

Note:

Notes contain additional information, reminders, or tips that can be useful depending on your task.

TEXT CONVENTIONS

TEXT TYPE	DESCRIPTION	EXAMPLE
Keystrokes	Text that you enter on the program interface, or a file location on the hard drive.	Enter Lexington in the text box.
Interface	Text that appears within the program interface.	Select the Enable check box.
<i>Reference</i>	The name of a reference guide or course title that can provide you with more information on the current topic.	For more information, see the <i>Interactive Documents</i> guide.

Module 1: Getting started in HP Exstream

Exploring the architecture and components

HP Exstream is a high-performance, easy-to-use enterprise document automation solution. It lets you create any type of fully customized communication using data from multiple systems and information sources. Output can be prepared for delivery across virtually every print and electronic channel. Each communication can be tracked along with customer responses, so you maintain a meaningful, ongoing dialogue with hundreds or millions of customers—one at a time. An overview of the functionality and architecture helps you understand the fundamentals of creating customized communications in the HP Exstream design and production environments.

This lesson provides an overview of the architecture, software environments, and modules found in HP Exstream.

Objectives

After you complete this lesson, you should be able to identify the following:

- ♦ The basic architecture of HP Exstream
- ♦ HP Exstream operating environments
- ♦ HP Exstream suites and modules
- ♦ The HP Exstream application development process
- ♦ HP Exstream objects

Terms

New terms used in this lesson include the following:

- ♦ **Application**—A container that holds all objects needed for packaging to create a personalized communication. Applications are stored under the **Applications** heading in HP Exstream.
- ♦ **Data file**—An object that tells HP Exstream how to read or write a particular external data source and how that data is to be used by the engine. Data files are stored under the **Data Files** heading in the Library.
- ♦ **Module**—An optional component of a software suite that adds additional functionality.
- ♦ **Object**—Any item you create.
- ♦ **ODBC-compliant database**—Open Database Connectivity. An interface with standard routines that enables a program, such as HP Exstream, to access data directly in compliant databases.
- ♦ **Output**—Electronic (for example, HTML) or print (for example, AFP) results.
- ♦ **Package file**—A file containing all the design objects necessary to run the design or production engine.

Additional information

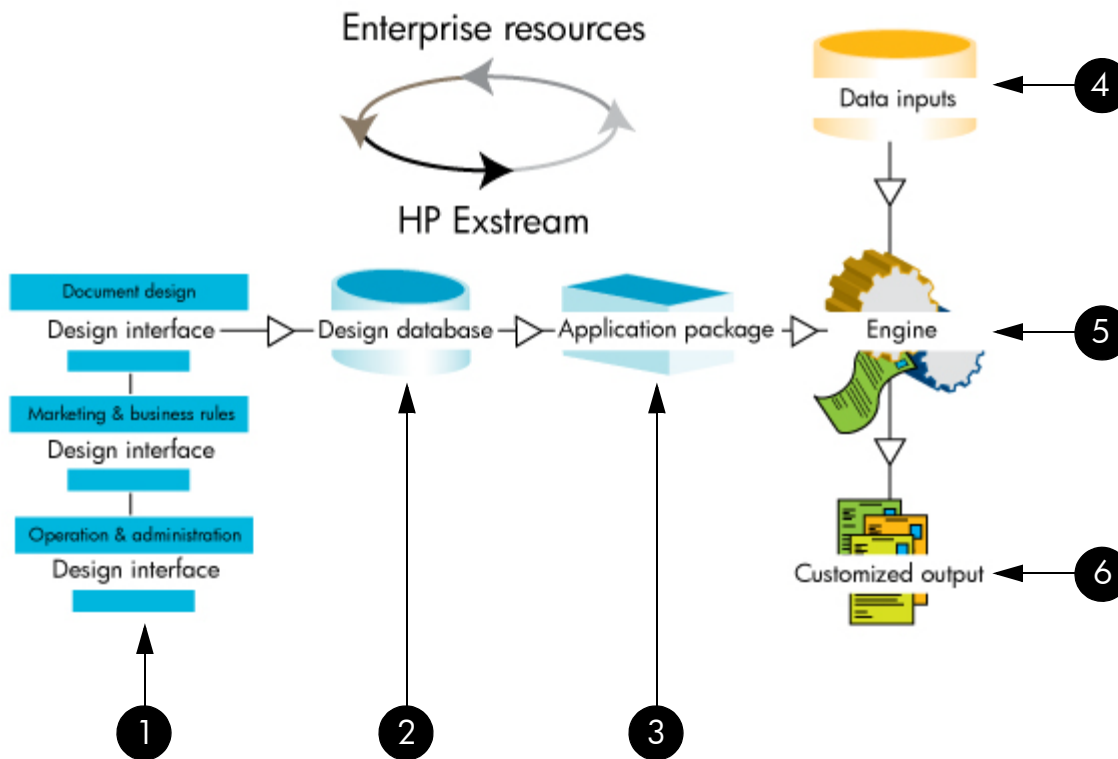
For more information on this topic, refer to the following guides:

- ♦ *Getting Started in HP Exstream* guide
- ♦ *Interface and Shortcuts* quick reference guide

Identifying the basic architecture

The HP Exstream architecture enables the greatest degree of communications flexibility. HP Exstream is designed to be the single connection between enterprise resources and customer communications.

Basic architecture



1. The design interface consists of Design Manager and Designer.
2. The design database stores all HP Exstream design information.
3. The package file contains all the objects necessary for production.
4. Multiple sources and types of input provide data to the HP Exstream engine.
5. The engine reads a package file and external data source files to produce output.
6. Customized print or electronic output is the result.

Identifying the design database

HP Exstream uses ODBC-compliant databases to contain:

- ◆ Information about the objects created, modified, or deleted in HP Exstream
- ◆ System settings and configuration information

This design database enables enterprise systems to interface easily with open architecture of HP Exstream. HP Exstream supports the following database platforms:

SUPPORTED DATABASE PLATFORMS

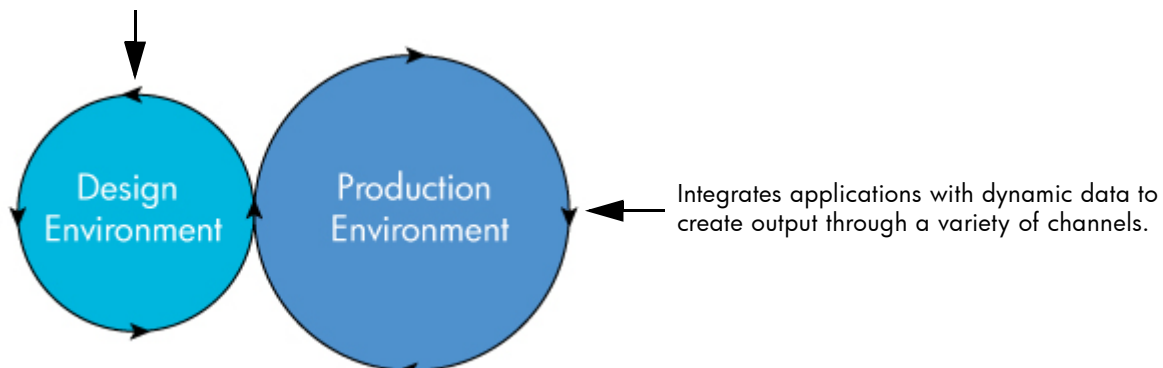
TYPE	DESCRIPTION	DRIVER
Access	Supports Access 97 and above; for demonstration and small-scale use only.	Microsoft ODBC
Oracle	Supports Oracle 9 and 10 for SBCS and DBCS and 8i on SBCS.	Oracle Corporation ODBC
SQL Server	Supports Microsoft SQL 7 and above on Windows.	Microsoft ODBC
DB2	Supports DB2 7.2.0 and above on all platforms.	Microsoft ODBC

Identifying the operating environments

HP Exstream operates in two basic environments.

HP Exstream environments

Provides the interface to build, maintain, and control applications.



The HP Exstream design environment lets you create page layouts using the intuitive design interface. Graphic design toolbars and menus let you compose and create personalized communications with ease.

Once fully tested and packaged, applications are moved to the HP Exstream production environment. The HP Exstream engine links to systems or databases to retrieve data in real time. HP Exstream can output to multiple devices and in many different formats.

Identifying the design environment

You can create customized communications within a design environment consisting of:

- ♦ **Design Manager**—Lets you manage all designed objects. It is also used to specify the contents and settings of each run of the HP Exstream engine and to configure your printers and other production equipment.
- ♦ **Designer**—Graphic design software used to design objects and composed of formatted text and unlimited graphic elements.

Identifying the production environment

You can package and produce customized communications within a networked delivery environment consisting of:

- ♦ **Design Manager**—Lets you manage all designed objects. It is also used to specify the contents and settings of each run of the HP Exstream engine and to configure your printers and other production equipment.
- ♦ **HP Exstream engine**—A stand-alone executable that reads package files and data from external sources to produce customer output. It is a batch- and transaction-oriented program that can run on various operating systems.

Exploring the suites and modules

HP Exstream is packaged in suites and modules. These provide the flexibility needed for on-demand, high-volume, or interactive requirements. HP Exstream allows you access to its full suite of modules; those purchased can be activated by a combination of your system key and licensing.

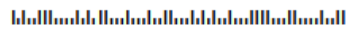
In this course, you use the following modules:

- ♦ 1:1 Document Creator
- ♦ Advanced Tables
- ♦ Dynamic Charting
- ♦ Publication Support
- ♦ Advanced Design Workflow
- ♦ Campaign Management
- ♦ PDF

Using applications to create customized communications

HP Exstream applications are developed to create your customized communications. You can create all types of personalized communications in HP Exstream, from simple letters to complex statements. Output can be presented electronically or in print.

Example: Invoice



Maureen Dunbar
1019 North Upper Street
Apt 3
Lexington, KY 40507-3241

Monthly Services by Fee



Account Summary

Previous Balance	\$232.12
Payments Received	\$232.12
Beginning Balance	\$0.00
Total Charges	\$112.95
Taxes and Surcharges	\$8.04
Total Amount Due	\$120.99
Due Date	May 30, 2005

SERVICE SUMMARY

Local Premium	\$39.99
Caller ID	\$4.99
Voicemail	\$2.99
MyMedia	\$14.99
VivaSpeed DSL	\$49.99
Total	\$112.95

Empower Your DSL With AllAccess Bundles!

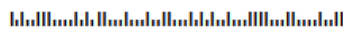
Flexibility, convenience and cost savings can all be yours with voice and integrated DSL bundles from Vivanet!

At Vivanet, we understand your need for new, innovative services while providing cost-effective solutions for your home office or small business. That's why we've designed Vivanet AllAccess to offer comprehensive, flexible packages that combine local, long distance, and data services. You can reduce costs, increase efficiency, and simplify your telecommunication needs with just one bill to pay and one company to contact.

New Cell Phone

Jan 1, 2006 - www.vivanet.com - Vivanet Communications announced today that its new cell phone will revolutionize the industry. This phone offers full Internet service, including email and a full function browser. Never before have so many features been available in a handheld wireless device! You can check the weather, the status of your portfolio, and converse via email with your friends, all in a credit card sized device! For pricing and full details, call your Vivanet Communications office at 800-555-1234.

Detach and return with payment.

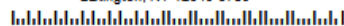


Maureen Dunbar
1019 North Upper Street
Apt 3
Lexington, KY 40507-3241

Account Number	555123
Amount Due	\$120.99
Due Date	May 30, 2005
Amount Paid	

Please return this portion with check
Payable to the address below

Vivanet Communications
PO Box 100
Lexington, KY 12345-8789



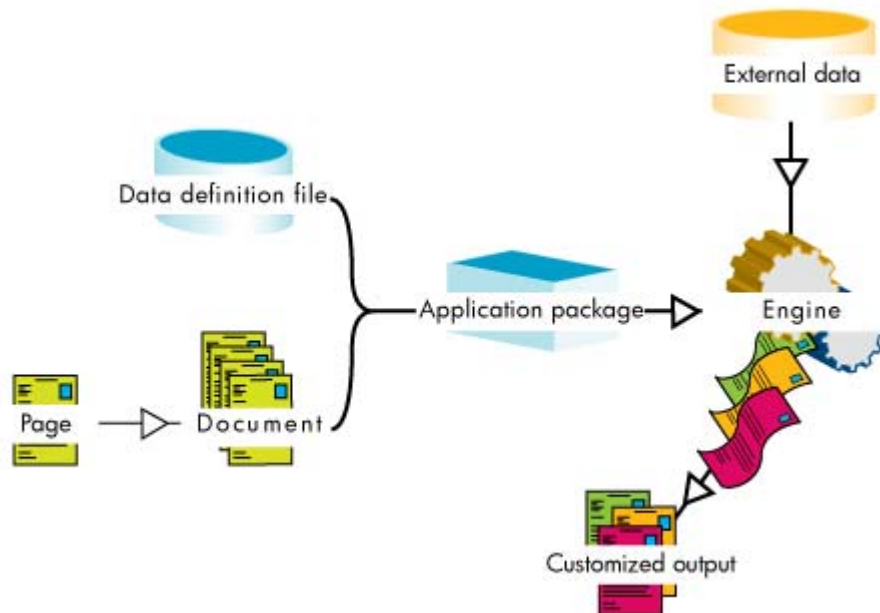
☐ Moving? Check here and print your new address on the back.



Creating applications

The following diagram provides a sample procedure for creating output using the essential objects in HP Exstream.

Creating an application



- ♦ Create or access an existing data file.
- ♦ Create and define a page.
- ♦ Add design objects to the page.
- ♦ Create and define a document.
- ♦ Add a page to the document.
- ♦ Create and define an application.
- ♦ Add a document to the application.
- ♦ Add the data file to the application.
- ♦ Build a package file from the application.
- ♦ Run the engine using a package file and external data.
- ♦ Customized output is created.

Identifying object types

Customized communications are created by using various objects to design and produce output. There are two types of objects:

- ♦ **Dynamic** – The information is changed or customized for each customer.
- ♦ **Static** – The information stays the same for all customers.

Object categories

Objects can be classified into the following categories:

- ♦ **Design** – Used in layout and composition
- ♦ **Data** – Provides the engine with information on how to use external data
- ♦ **Delivery** – Creates electronic or print output
- ♦ **Application** – Used as a container for data and design objects

OBJECT TYPES AND EXAMPLES

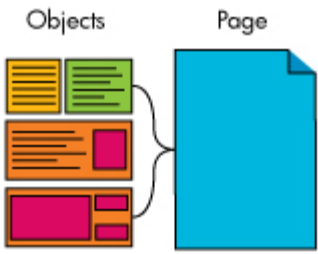
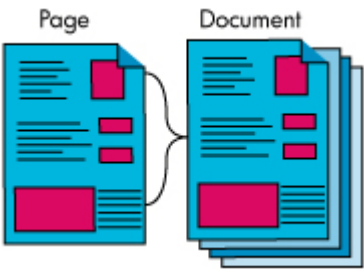
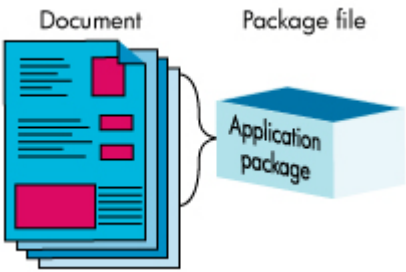
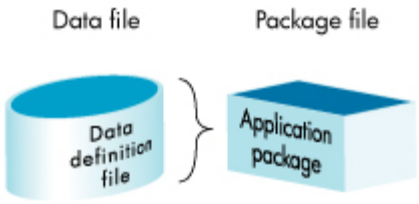
CATEGORY	USES	EXAMPLES
Design	<ul style="list-style-type: none"> • Use design objects for layout and composition. 	<ul style="list-style-type: none"> • Tables • Shapes • Charts • Text boxes • Imported graphics • Frames
Data	<ul style="list-style-type: none"> • Use data objects to provide the engine with information on how to use external data. 	<ul style="list-style-type: none"> • Data files • Variables • Functions • Rules • Connectors
Delivery	<ul style="list-style-type: none"> • Use delivery objects to create electronic or print output. 	<ul style="list-style-type: none"> • Output devices • Inserters • Output queues • Barcodes
Application	<ul style="list-style-type: none"> • Use application objects to contain data and design objects. 	<ul style="list-style-type: none"> • Documents • Package files • Applications • Campaigns

Depending on the structure of your organization and your licensing, you may not work with all HP Exstream objects.

Object relationships

In HP Exstream, most objects can be created in any order before being combined into an application. However, pages, documents, data files, and applications have special relationships.

RELATIONSHIPS OF HP EXSTREAM OBJECTS

OBJECT	RELATIONSHIP	ACTION
Design objects and pages		Design objects are placed on a page.
Pages and documents		Pages are placed in documents.
Documents and applications		Documents are placed in an application.
Data definition files and applications		Data definition files are placed in an application.

Object usage

The following tables display some of the actions performed in Design Manager and Designer.

DESIGN

ACTION	DESIGN MANAGER	DESIGNER
• Create pages	x	x
• Create messages	x	x
• Create paragraphs	x	x
• Create sections	x	x
• Create message templates	x	x
• Create page templates	x	x

DATA

ACTION	DESIGN MANAGER	DESIGNER
• Create data files	x	
• Map data files	x	
• Create variables	x	
• Create rules	x	x

DELIVERY

ACTION	DESIGN MANAGER	DESIGNER
• Package applications	x	
• Create output objects	x	
• Run the engine	x	

APPLICATION

ACTION	DESIGN MANAGER	DESIGNER
• Create documents	x	
• Create applications	x	
• Create campaigns	x	



Observe the demonstration.

Using Design Manager and Designer

Design Manager is management software that lets you manage all designed objects. Design Manager is used to specify the contents and settings of each run of the HP Exstream engine and to configure your printers and other production equipment.

Designer is graphic design software that gives you the ability to design on-the-fly, multifaceted communications composed of formatted text and virtually unlimited graphic elements.

Objectives

After you complete this lesson, you should be able to do the following:

- ♦ Log in to and log out of Design Manager.
- ♦ Identify the components and functions of the Design Manager user interface.
- ♦ Log in to and log out of Designer.
- ♦ Identify the components and functions of the Designer user interface.
- ♦ Access Help.

Terms

Important terms used in this lesson include:

- ♦ **Variable Palette** – A dialog box that lets users select variables currently configured in the design database.

Additional information

For more information on this topic, refer to the following guides:

- ♦ *Getting Started in HP Exstream* guide
- ♦ *HP Exstream Interface and Shortcuts* Quick Reference guide
- ♦ *Library Objects* guide

Logging in and logging out of Design Manager

Design Manager is the management software used to create and administer objects in the design database. From Design Manager, you can:

- ◆ Create objects.
- ◆ Build applications.
- ◆ Define the design environment.
- ◆ Manage data.
- ◆ Configure system settings.
- ◆ Define the delivery environment.

Logging in

To use Design Manager, either:

- ◆ Double-click the **Design Manager** shortcut on the Windows desktop.
- ◆ Access the **Design Manager** shortcut from your start menu.

Design Manager opens, and you are prompted to log in. Enter the user name and password assigned by your system administrator.


- ◆ Click **OK** to submit your user name and password and log in to Design Manager.

Note:

Your user ID is not case-sensitive. Your password is case-sensitive and must be entered accordingly. This applies to Access databases and varies by database type.

Logging out

To log out of Design Manager, either:

- ◆ Click  at the top right corner of the Design Manager window.
- ◆ Select **File > Exit** from the Menu bar.

You return to the desktop.

System administrator log in

Users in your organization that log in with a “super user” user name and password have access to all HP Exstream capabilities. These “system administrators” have the responsibility for licensing and system configuration. A separate course, *HP Exstream System Administration*, details the following tasks.

Licensing

When you first log in, a **License option** dialog box prompts you to obtain a license. To run HP Exstream, an authorized license must be installed on the computer. In most organizations, the system administrator assigns licenses.

System configuration

Your system configuration can be customized to meet your specific HP Exstream needs. This task is typically performed by your system administrator. This customized user interface affects the availability of:

- ♦ Objects and folders you see in the Library
- ♦ Data file and variable features
- ♦ Page, document, campaign, and message features
- ♦ HP Exstream modules available for your use
- ♦ Packaging and workflow features
- ♦ Designer objects and features

Note:

This course may use a different configuration than your company uses.

Exploring the Design Manager interface

The Design Manager interface is designed to simplify navigation and user orientation.











With your instructor, explore the Design Manager interface.










The Library

Each of the headings in the Library contain a specific type of object. Most of these objects are discussed in their own guides. See the table below for a brief description.

DESCRIPTIONS OF LIBRARY OPTIONS

ICON	OBJECT TYPE	DESCRIPTION
	Folders	A container for a set of Library design objects. Often used for specific projects or departments.
	Applications	A container that holds all the objects needed for packaging to create a personalized communication.
	Documents	A collection of pages, messages and/or sections. Documents are added to applications.
	Pages	A design area that usually corresponds to a sheet of paper. Pages are stored under the Pages heading in the Library and can be stored globally or in each folder the page is stored.
	Sections	A repository-like object that can contain paragraphs and other sections.
	Paragraphs	A block of communication within a section.
	Campaigns	A container for one or more marketing messages.
	Messages	A text or graphic communication that is placed by the engine in areas on a page held in reserve by frames.

DESCRIPTIONS OF LIBRARY OPTIONS

ICON	OBJECT TYPE	DESCRIPTION
	Components	Objects you design that are saved under the Components heading in the Library and used in other designs.
	Rules	A set of conditions used to control the inclusion or exclusion of an object.
	Functions	Logic that is used to manipulate data and return a value.
	Data Dictionary	A heading in the Library that contains variable objects. Both system and user-defined variables are contained under this heading.
	Data Files	Objects that tell HP Exstream how to read or write a particular external data source and how that data is to be used by the engine.
	Connectors	In Design Manager, connector objects provide information about the location and operating parameters of external user-written routines (DLLs) for use with Dynamic Data Access (DDA). These objects appear under the Connectors heading in the Library. (Requires the DDA module)
	Lists	A static or dynamic collection of references to (non-system) objects in various folders.
	WebVerse	A module that lets you create highly customized documents based on real-time interactions with users and systems.
	Environment	A major heading in the Library that contains various other headings including System, Design, Delivery, and WebVerse.

Library view

You can choose to view certain Library objects by changing your Library view. To change your view, click the Library title bar.

When you click the Library drop-down list, a menu opens with the following choices:

- ◆ **Complete View**—Everything is available
- ◆ **Marketing View**—Objects needed to create marketing campaigns
- ◆ **Document View**—Objects necessary to create basic documents
- ◆ **Data View**—Data related objects
- ◆ **WebVerse View**—Objects under the WebVerse heading
- ◆ **Environment View**—Objects under the Environment
- ◆ **List View**—Lists under the List icon
- ◆ **Favorite List View**—Favorite lists under the different lists

From the Library view menu, you can also **Show All Folders**, **Show One Folder**, **Hide All Folders**, **Versions to Show**, and **Hide Empty Headings**.

See the table below the objects available for each view.

OBJECTS AVAILABLE PER LIBRARY VIEW

	COMPLETE	MARKETING	DOCUMENT	DATA	WEBVERSE	ENVIRONMENT	LISTS	FAVORITE LIST
Folders	X	X	X	X	X		X	X
Applications	X		X					
Documents	X		X					
Pages	X		X					
Sections	X		X					
Paragraphs	X		X					
Campaigns	X	X						
Messages	X	X						
Components	X		X					
Rules	X			X				
Functions	X		X					
Data Dictionary	X		X					
Data Files	X		X					
Connectors	X		X					
Lists	X						X	X
WebVerse	X				X	X		
Environment	X					X		

The Property Panel

When you create HP Exstream objects, you use a “create and define” process. You use the Property Panel to define an object. The Property Panel displays properties about an object you can view or modify. To access an object’s properties, drag an object from the Library and drop it anywhere on the Property Panel.

The Edit Panel

You can use the Edit Panel for a number of different tasks, such as:

- ♦ Viewing the contents of objects that contain other objects (such as a Library heading)
- ♦ Viewing, mapping, and testing data files
- ♦ Setting special properties on pages in a document (used with split and flow)
- ♦ Viewing an object’s version history
- ♦ Viewing lists

The trashcan

HP Exstream supports a “soft delete” feature with the trashcan below the Library. With the trashcan, you can remove objects from the Library, view and retrieve objects in the trashcan, and completely delete objects you no longer need.



You cannot restore objects once you empty the trashcan. Emptying the trashcan is a permanent action.

Menus

You can access Design Manager menus and submenus from the Menu bar. Available menus include:

- ◆ File
- ◆ Edit
- ◆ View
- ◆ Insert
- ◆ Manage
- ◆ Tools
- ◆ Help

Toolbars

The Design Manager toolbar and bars provide you with quick access to the most commonly used functions. Available toolbars include:

- ◆ Standard toolbar
- ◆ Management toolbar
- ◆ Data Mapping toolbar
- ◆ Menu bar
- ◆ Title bar
- ◆ Status bar

The Variable Palette

The Variable Palette provides a convenient way to find and select variables to include in your applications.



Observe the demonstration.

Logging in and logging out of Designer

Designer is the graphic design software used in designing objects, such as pages and messages, that make up your HP Exstream application. From Designer, you can:

- ◆ Design pages and messages.
- ◆ Import text and graphics.
- ◆ Create tables and charts.

Logging in

To begin using Designer, either:

- ◆ Double-click the **Designer** shortcut on the Windows desktop.
- ◆ Access the **Designer** shortcut from your start menu.

Designer opens, and you are prompted to log in. Use the user name and password assigned by your system administrator


Click **OK** to submit your user name and password and log in to Designer.

Note:

Your user ID is not case-sensitive. Your password is case-sensitive and must be entered accordingly. This applies to Access databases and varies by database type.

Logging out

To log out of Designer, you can either:

- ◆ Click  at the top right corner of the Designer window.
- ◆ Click **File > Exit** from the Menu bar.

Exploring the Designer interface

The Designer interface contains toolbars, bars, and panels to provide quick access to various tools, functions, and information.



With your instructor, explore the Design Manager interface.

Menus

You can access the Designer menus and submenus from the Menu bar.

- ◆ File
- ◆ Edit
- ◆ View
- ◆ Insert
- ◆ Format
- ◆ Tools
- ◆ Table
- ◆ Draw
- ◆ Window
- ◆ Help

Toolbars

The Designer toolbars and bars provide you with quick access to the most commonly used functions.

- ◆ Standard toolbar
- ◆ Formatting toolbar
- ◆ Position toolbar
- ◆ Drawing Objects toolbar
- ◆ Live tools toolbar
- ◆ Properties toolbar
- ◆ Review toolbar
- ◆ Menu bar

Help menu

The **Help** menu in Design Manager and Designer provides various levels of information. When you select **Help** from the Menu bar, the **Help** shortcut menu opens.

Using the documentation

The goal of the documentation set is to provide you with the information to enhance your workplace performance. The preferred method of using the documentation is directly on your PC. With the HP Exstream documentation set on your hard drive, you can use context-sensitive help (by pressing the F1 key in an HP Exstream program) and conduct searches across all guides.

Using the documentation set locally

When you download to your computer, the documentation set is available for on-screen viewing or print.

Conducting an index search using Acrobat 7.0 or later

To conduct an index search, use Adobe Acrobat Professional or Adobe Acrobat Reader. It is strongly recommended that you use Adobe Acrobat 7.0 or later. To access Adobe's Acrobat Reader portal to download the free Reader program, go to:

<http://www.adobe.com/products/acrobat>

Context-sensitive help

When you press the F1 key, HP Exstream automatically opens an Adobe Acrobat window and opens to the first page in the documentation set that discusses the currently active dialog box or tab. From the Acrobat page you can browse, read, or print as you like. You can click links in the far right column to go to other places in the documentation set that discuss specific topics in more detail, without having to conduct a search.

The top menu options under "Help" in an HP Exstream program, such as Design Manager or Designer, also automatically open to pertinent pages in the documentation set.

Creating a shortcut

From the Windows Start menu, create a shortcut to the HP Exstream Documentation file. Place the shortcut on your desktop or any other convenient location.

Conducting a search

This literal-text search is very quick and comprehensive.

1. Open the Documentation Catalog.
2. In the **What word or phrase would you like to search for** text box, type a word or phrase.
3. Select or clear the **Whole words only** and **Case-sensitive** check boxes as needed for your search.
 - The **Include Bookmarks** and **Include Comments** check boxes are not applicable for searching through the documentation set.
4. Click **Search**.
 - The **Results** box displays the reference guides containing the text you specified.
5. To expand the results click the plus sign next to a reference guide name.
 - You view links to specific pages inside the book.

Learning check: Using Design Manager and Designer

Log in and out of Design Manager and Designer.

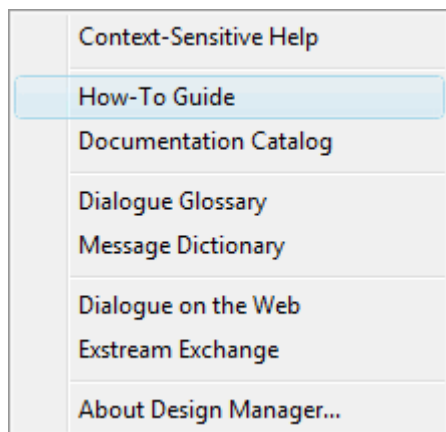


Log into Design Manager.


1. Double-click the Design Manager shortcut on your desktop.
2. Enter **ADMIN** for your user name.
3. Enter **xxx** for your password.
4. Click **OK**.



Access the **How-To Guide** from the **Help** menu.



Log out of Design Manager.

1. Click  at the top right corner of the Design Manager window.



Log into Designer.

1. Double-click the Designer shortcut on your desktop.
2. Enter **ADMIN** for your user name.
3. Enter **xxx** for your password.
4. Click **OK**.



Log out of Designer.

1. Click  at the top right corner of the Designer window.

Module 2: Creating business correspondence documents

Exploring basic data concepts

Being familiar with your data is critical to the design and production of an application. In HP Exstream, this includes variables, data files, and their sources.

This lesson discusses data in HP Exstream.

Objectives

After you complete this lesson, you should be able to do the following:

- ♦ View variables in the **Data Dictionary** and the **Variable Palette**.
- ♦ View a data file in the Property Panel.
- ♦ View and test data file mapping.

Terms

Important terms used in this module include:

- ♦ **Customer driver file**—A data file that contains customer data and is required to run an application.
- ♦ **Data Dictionary**—A container that holds system and user-defined variables. The Data Dictionary is located under the **Data Dictionary** heading in the Library.
- ♦ **Data file**—An object that tells HP Exstream how to read or write a particular external data source and how that data is to be used by the engine. Data files are stored under the **Data Files** heading in the Library.
- ♦ **Record**—All the related data that describes a specific entry in a database or data file.
- ♦ **Reference file**—Optional data file used by the engine to access additional customer data not included in the Customer driver file.
- ♦ **Variable**—An object that represents data that can change at engine run-time from various sources. These objects are located in the **Variable Palette** and the Library under the **Data Dictionary** heading.

Additional information

For more information on this topic, refer to the following guides:

- ♦ *Data Files* guide
- ♦ *Variables* guide

Viewing and identifying variables

In HP Exstream, variables provide the backbone for customizing your data. The following discussion will familiarize you with variables, where to locate them, and how to use them.

Variable overview

A variable is an object that represents data that can change at engine run-time from various sources. These objects are located in the **Variable Palette** and the Library under the **Data Dictionary** heading.

Variables are data items that define information. In HP Exstream, you use variables to:

- ♦ Create business logic.
- ♦ Create reports.
- ♦ Personalize output.
- ♦ Track system progress.

HP Exstream includes the following two categories of variables:

System variables

- ♦ Reserved variables with a predefined meaning in HP Exstream
- ♦ HP Exstream automatically sets the values
- ♦ Cannot be renamed or deleted
- ♦ Begin with a SYS_ prefix in the Data Dictionary, for example:
 - 'SYS_DateCurrent'
 - 'SYS_PageInDocument'
 - 'SYS_TableRow'

User-defined variables

- ♦ Created and defined by the user
- ♦ Can be renamed or deleted
- ♦ User defines variable name, for example:
 - CustomerName
 - AddressLine1

Variable properties

You view and edit variable properties in the Property Panel. There are several types and uses of variables in HP Exstream, as shown in the table below:

DESCRIPTION OF VARIABLE TYPES

VARIABLE TYPE	DESCRIPTION
Boolean	Used with data that has a value of either true or false
Currency*	Used with monetary amounts
Date*	Used with date and time values. This variable may automatically format based on a customer's language.
Float	Used with numeric values that include decimals
Integer*	Used when values are a whole number
Placeholder	Used to store content outside your database and import it during the engine run to the location of your placeholder variable
String*	Used when the value of the variable contains text. The limit for the size of string variables in HP Exstream is 64K. String variables can be language-dependent.
Tagged Text	Used to contain text tags that relate formatting instructions

*For instructional purposes, this course limits information and instructional content to these four variable types.

Variable sources

The variable source provides the method to calculate or access the variable. There are several types and uses of variables in HP Exstream, as shown in the table below:

DESCRIPTION OF SOURCE TYPES

SOURCE	DESCRIPTION
User value*	User defines the value.
Formula*	Information from your database computes based on a pre-defined formula.
File only*	The variable originates in a data file only.
Counter	The variable increases by one during the run, according to a formula you create.
Crossref page	An additional source option that appears when you select Integer as your variable type.

*For instructional purposes, this course limits information and instructional content to these three source types.

Design sample

You can specify a sample of how the variable appears in output. This sample appears when you place a variable in a design. In Designer, you toggle between viewing the variable name and its **Design sample** by clicking the variable display toggle icon on the Properties toolbar.

Data Dictionary

The **Data Dictionary** is a heading in the Library that contains variable objects. Both system and user-defined variables are contained under this heading.

To view the contents of the Data Dictionary, you can either:


- ◆ Expand the **Data Dictionary** heading by clicking its plus sign.
- ◆ Drag the **Data Dictionary** heading into the Property Panel or the Edit Panel.

You can view the following information when you open the **Data Dictionary** in the Property Panel or the Edit Panel:

INFORMATION ABOUT THE DATA DICTIONARY IN THE EDIT OR PROPERTY PANEL

COLUMN TITLE	DESCRIPTION
Name	The variable's name
Description	A description of the variable's value or use
Folder	The location of the variable
Type	The variable's type
Source	How and where the variable gets its value
Compute time	When the formula should be computed
Array	Tells if a variable can have multiple values
Languages	The language, if any, for which this variable is associated
User Access	Set by the system administrator
Validation	Shows the method of data validation
Design sample	Shows the Design sample
Version	Shows the version number of the variable
Status	Shows the approval process status
Last Modified	Shows the date the variable was last changed
Modified by	Displays the name of the user who modified the variable

Viewing the Variable Palette

The Variable Palette lets users select variables currently configured in the design database. You can view all available variables in the Variable Palette. In Design Manager, this can be accessed from the **View** menu by clicking  on the Standard toolbar.

Variable filter and refresh variable options



You can select filter your variables by clicking each icons drop-down list.

Filter and refresh options from left to right:

- ◆ Filter by variable type
- ◆ Filter by array/non-array
- ◆ Filter by system/non-system variables
- ◆ Filter by folder location
- ◆ Filter by application
- ◆ Refresh variable list

The Variable Palette displays the following information:

VARIABLE PALETTE INFORMATION

Type	Displays type name and icon
Variable	Shows the variable user-defined or system variable name
Folder	Identifies the location of the variable



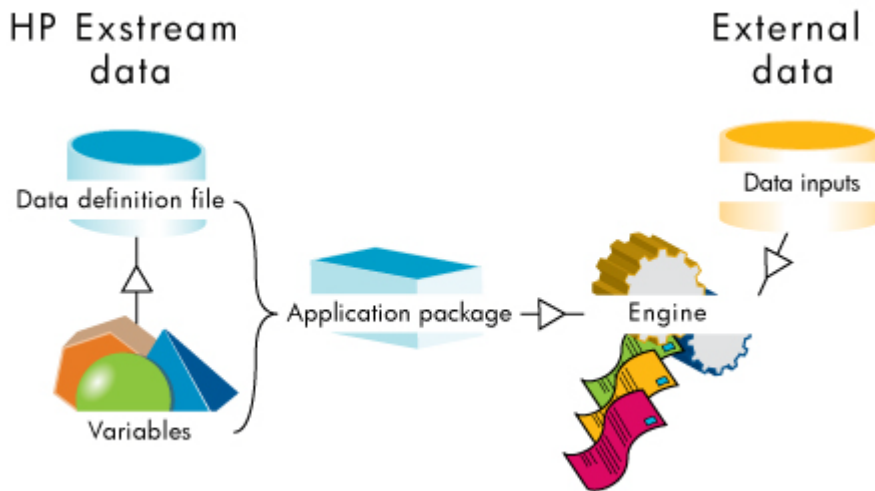
Observe the demonstration.

Viewing and identifying data files

A data file is an HP Exstream object that tells the software how to read or write a particular external data source and how that data is to be used by the engine. HP Exstream data files do not contain or provide data; they are used to point to an external data source. These data sources can be data files or ODBC-compliant databases. Using the open architecture of HP Exstream, you can access these files by path and name.

Data files are found under the **Data Files** heading in the Library. They are managed much like other objects.

The relationship of data files, external data, and variables



Data files in an application

You must have at least a customer driver file data file in your application.

Data file properties

You can view and edit the properties of a data file in the Property Panel.

Types of data

In HP Exstream, there are two types of data: external data inputs and data definition files.

HP Exstream obtains external data inputs at engine run time to accomplish the following:

- Select files.
- Fill text and data areas in designed objects.
- Process rules.
- Build dynamic objects.

External data inputs contain actual customer data and are used as the **Production Data Source** when defining data file properties.

You include data definition files in an application package to accomplish the following:

- ◆ Provide sample data.
- ◆ Read or write data at engine at run time.
- ◆ Used as the **Test Data Source** when defining data file properties

Data properties

The information received by the engine from an external data source includes:

DESCRIPTION OF DATA PROPERTIES

HP EXSTREAM TERM	PROPERTY
File type	How the engine uses external data from the data source.
File format	Format of data at the data source.
Record type	How and where records begin and end.
Input-Output (IO) time	When the engine should access or write external data.
Data Source tabs	Where the external data source is located.
Data mapping	How to process data to or from the data source.

In Design Manager, you modify and set data file properties in the Property Panel.

Data file formats

In this course, you will work with the following data formats:

DATA FILE FORMAT DESCRIPTIONS

TYPE	DESCRIPTION
Columnar data file	<ul style="list-style-type: none">Fixed number of characters per record.Data fields are in a fixed position in the record.
Delimited data file	<ul style="list-style-type: none">A character-based delimiter separates the information.

The additional HP Exstream data formats include:

- ♦ **Print file**
- ♦ **XML data file**
- ♦ **ODBC data source**
- ♦ **PDF Form**
- ♦ **Live**

Data file types

You can create the following types of data files in HP Exstream. For instructional purposes, this course limits information and instructional content to the first two data file types:

DATA FILE TYPE AND DESCRIPTION

DATA FILE TYPE	DESCRIPTION
Customer driver	Contains customer data and is required to run an application.
Reference file	Optional data file used by the engine to access customer information not included in the Customer driver file.
Initialization file	Sets initial values for specified variables. This optional data file is read once when the engine starts to initialize specified data.
Auxiliary layout	Used to provide multiple key variables for a Reference file or to provide transaction information for the MapLayout built-in function.
Report file	Optional data file used to create a report record or set of records, normally for each customer.
File viewer	A data file that you define to view AFP or Metacode output files.

Note:

You can also create a sort index, post-sort report file, and post-sort initialization file with the Output Sorting and Bundling module.



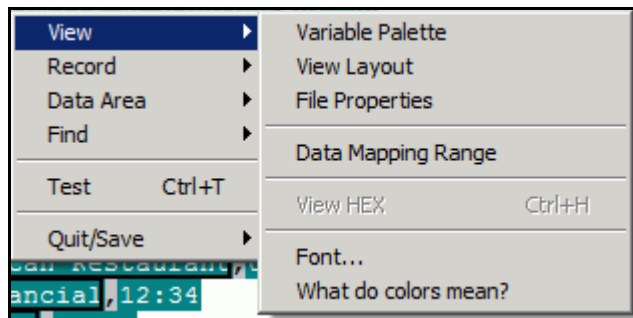
Observe the demonstration.

Viewing and testing data files

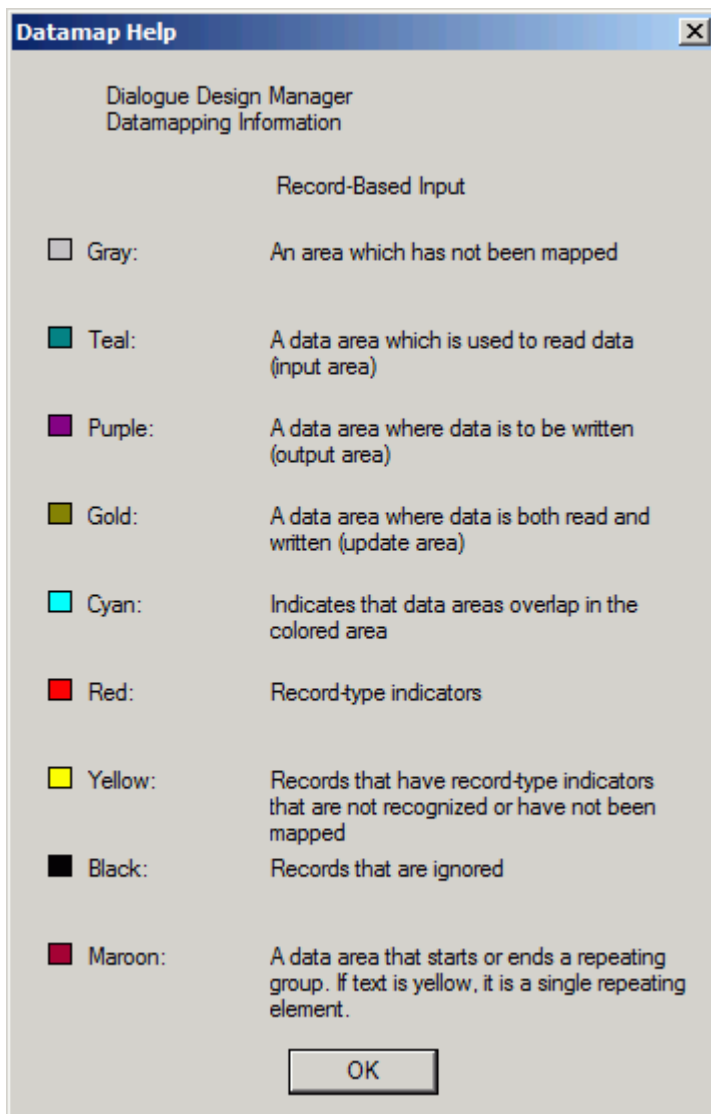
You can view the contents of a data file by dragging and dropping it into the Edit Panel. Information about the data file, such as its name, type, and data mapping, is displayed.

HP Exstream uses a variety of color indicators to identify data mapping and record-based input in the Edit Panel.

To view a list of color indicators, right-click a data file in the Edit Panel and select **View > What do colors mean?** from the shortcut menu.



What do colors mean?



Layout view

If you right-click in the Edit Panel and select **View > View Layout** from the shortcut menu, the Property Panel displays details about the current variable mapping of the data file in the Edit Panel. This is called the layout view.

When you click a variable in the Property Panel, a black line surrounds the associated data area in the Edit Panel so you can find it easily.

The variables and records are presented in order of occurrence. However, you can change the order of this list by clicking any of the category headings. Click a category heading to reorder the list based on that category. Click the **Index** heading to return the list to the original order.

Layout view in the Property Panel

Layouts for New Subscribers											
Name	Description	Type	Format	Array	Layout	Begin	Length	Array...	Use	Confidenti...	Index
1	New Custo...	Record			1	1					
AccountNumb...		String	Trim ...	No	1	1	0	n/a	Input	No change	2
CustomerFirst...		String	Trim ...	No	1	2	0	n/a	Input	No change	3
CustomerLast...		String	Trim ...	No	1	3	0	n/a	Input	No change	4
AddressLine1		String	Trim ...	No	1	4	0	n/a	Input	No change	5
AddressLine2		String	Trim ...	No	1	5	0	n/a	Input	No change	6
CustomerCity		String	Trim ...	No	1	6	0	n/a	Input	No change	7
CustomerState		String	Trim ...	No	1	7	0	n/a	Input	No change	8
CustomerZip		String	Trim ...	No	1	8	0	n/a	Input	No change	9
StoreNumber		String	Trim ...	No	1	9	0	n/a	Input	No change	10

Testing data file mapping

You can test a selected variable or all the variables in a data file. The test results display the corresponding information in the data file for as many customers as you want. This lets you make sure the variables are mapped correctly.

You test variable mapping(s) using the **Variable Test Results** dialog box, which is available when you right-click a data file in the Edit Panel and select **Test**.

Variable Test Results dialog box

Variable Test Results

Test requests

☒ Selected only
 ☒ Show breaks
 ☒ Limit sets
 to

Test results

Variable

Results

1 =====

Rexall Pharmacy; Rick Shaw's Take Out; Stuvesant Bank; Big Kahuna Burger; Ra

===== 2 =====

Piper's Pit Barbeque; Goodwine's Bouquet; Rockwell's Closet Clothiers; The Marke

===== 3 =====

Super Mart; Effendi Cuisine; Indianapolis Sentry Newspaper; Sparkle Cleaning Ser

===== 4 =====

The Computer Store; The Dragon Dojo; Ace Clock Repair; The Chesire Cat Bookst

===== 5 =====

Bourbon Street Deli; The Admiral Benbow Tavern; Escapade Travel Agency; Paisa

Messages



Observe the demonstration.

Learning check: Exploring basic data concepts

Here are your requirements. Prior to using HP Exstream, discuss how to complete them.

DISCUSSION

REQUIREMENTS	IN HP EXSTREAM
Make sure the New Subscribers data file exists and contains the appropriate information.	
Make sure the 'CustomerBarcode' and the 'CustomerFirstName' variables exist.	
View and test data file mapping with the Variable Test Results dialog box.	



View the Data Dictionary.

TASK	SPECIFICS
View the Data Dictionary .	<ul style="list-style-type: none"> • Locate the 'SYS_DateCurrent' and 'CustomerBarcode' variables. • Drag them to the Property Panel and view their properties.

Note:

When using the **Variable Palette**, ensure **All Types**, **All Variables**, and **All Folders** are selected from the panel to view all available types of variables.

1. In Design Manager, expand the **Exstream > Data Dictionary** heading.
2. In Design Manager, expand the **Exstream > Class Exercises > Module 2 > Data Files** heading.
3. Drag the **New Subscribers** data file to the Edit Panel. Scroll over the data file to view the mapped variables.
4. Scroll through the **Data Dictionary**, locating the variables mapped to the **New Subscribers** data file.
5. Drag the 'SYS_DateCurrent' variable to the Property Panel and view the properties.
6. Drag the 'CustomerBarcode' variable to the Property Panel and view the properties.
7. Close the Property Panel and Edit Panel.



Answer the following questions.

- 1. Why are most of the 'SYS_DateCurrent' properties inactive?
- 2. 'CustomerBarcode' has what **Data type**? What **Source**? What **Reset time**?



View the Variable Palette.

TASK	SPECIFICS
View the Variable Palette.	Locate the 'CustomerFirstName' variable.

- 1. In Design Manager, click the **Variable Palette**  button on the Standard toolbar.



Answer the following questions.

- 1. In what folder does the 'CustomerFirstName' variable appear?
- 2. How do you close the Variable Palette?



View a data file.

TASK	SPECIFICS
View a data file.	Open the New Subscribers data file in the Property Panel.

1. Expand the **Exstream > Class Exercises > Module 2 > Data Files** heading.
2. Drag the **New Subscribers** data file into the Property Panel.
3. Select the **Basic** tab
4. Close the Property Panel after you answer the following questions.



Answer the following questions.

1. What file type is the **New Subscribers** data file? What **File format**?

2. How are customers identified in the **New Subscribers** data file?



View and test the mappings in a data file.

TASK	SPECIFICS
View a mapped data file.	View the New Subscribers layout and test the mapping.

1. Expand the **Exstream > Class Exercises > Module 2** folder.
2. Drag the **New Subscribers** data file into the Edit Panel.
3. In the Edit Panel, right-click and select **View > View Layout** from the shortcut menu.
4. Identify the customer variables mapped to the **New Subscribers** data file.
5. In the Edit Panel, right-click and select **Test** from the shortcut menu.
6. Clear the **Selected only** check box and click **Go**.
7. Scroll through the **Results** to become familiar with the test data.
8. Close the **Variable Test Results** dialog box.
9. Close the Edit Panel and Property Panel.



Answer the following question.

1. Which customers do not have a second address line?

Creating pages and documents

Creating a communication involves creating and designing pages and then combining pages into documents. This lesson discusses how to create pages and documents and add design objects.

Objectives

After you complete this lesson, you should be able to do the following:

- ◆ Create and define a page.
- ◆ Create and define a document.
- ◆ Add a page to a document.
- ◆ Create and define a design object.
- ◆ Import content to a page in Designer.

Terms

Important terms used in this lesson include:

- ◆ **Document**—A collection of pages, messages, and/or sections. Documents are stored under the **Documents** heading in the Library.
- ◆ **Handles**—The squares that appear around an object in Designer when it is selected and are used to resize the object.
- ◆ **Page**—A design area that usually corresponds to a sheet of paper. Pages are stored under the **Pages** heading in the Library.
- ◆ **Page template**—An object that defines a paper type and controls what type of page can be used. This heading is located under **Environment > Design > Templates > Page Templates** in the Library.
- ◆ **Paper type**—An object used to define the size, weight, and color of paper stock, as well as media names for printer control. Paper types are stored under **Environment > Design > Paper Types** in the Library.
- ◆ **Reference name**—A unique name for a Designer object. It is used in engine report files.
- ◆ **Referenced object**—An object appearing under another object, such as a message, that links to its original elsewhere in the Library. A referenced object is denoted by a small arrow in the lower left corner of the icon.
- ◆ **Text box**—A design element where you can enter or import text.

Additional information

For more information on this topic, refer to the following guides:

- ◆ *Applications, Documents, and Pages* guide
- ◆ *Design Objects* guide


Creating and defining a page

A page is a design area that usually corresponds to a sheet of paper. Pages are stored globally under the **Pages** heading in the Library, or under the **Pages** heading in each sub folder. You create pages in Design Manager or Designer. When you define the page properties, you can choose either simplex (single-sided) or duplex (two-sided). A page contains your layout and design objects.

Creating a page in Design Manager

There are several ways to create a page in Design Manager.

To create a new page, you can do the following:


- ♦ Highlight the **Pages** heading and click  on the Standard toolbar.
- ♦ Right-click on the **Pages** heading and select **New Page** from the shortcut menu.

Defining the paper type and page template

After you create your new page name, you must click **Next**. After you click **Next**, select a **Page Template** or **Paper type**. Clicking the **Finish** button adds the page to the Library and displays it in the Property Panel for you to apply any additional settings.

Creating a page in Designer

To create a page in Designer, you can do one of the following:

- ♦ Click  from the Standard toolbar.
- ♦ From the Menu bar, click **File > New** to open the **Create New Item** dialog box.

In the **Create New Item** dialog box, enter a name for your page and click **Next**.

After you click **Next**, select a **Page Template** or **Paper type**. When you click **Finish**, the page opens in Designer.

Note:

Page properties such as size and background color are dependent on the paper types predefined by your system administrator.

Defining a page in Design Manager

After you create a page, you must define its properties in Design Manager.

Pages in the Property Panel display the following tabs:

- ♦ **Basic**—Provides options to define the paper type, template, and orientation.
- ♦ **Targeting**—Provides options to set and apply page rules.
- ♦ **Flow**—Provides options to set flow properties.
- ♦ **Languages**—Provides options to apply language settings.
- ♦ **Regulatory**—Provides options to apply jurisdictions and effectivity. The **Regulatory** tab appears if your organization's installation includes the Compliance Support module.

Creating a duplex page

By default, all pages are simplex. You can set pages to duplex in Design Manager and Designer.

In Design Manager, select the **Duplex** check box in the Property Panel.

There are two ways to set a page to duplex in Designer:

- ♦ On the **Create New Item** dialog box, select the **Duplex** check box.
- ♦ On the page in the design window, right-click and select **Properties** to open the **Designer Options** dialog box. On the **Properties** tab, select the **Duplex** check box.




Observe the demonstration.

Creating and defining a document

Documents are a container for page. To add a page to an application, you must first add it to a document. You can only create documents in Design Manager.

Creating a document

To create a document in Design Manager, you can do one of the following:

- ♦ Highlight the **Documents** heading in the desired folder and click .
- ♦ Right-click on the **Documents** heading in the desired folder and select **New Document** from the shortcut menu.

Clicking the **Finish** button adds the page to the Library and displays it in the Property Panel for you to apply any additional settings.

Defining a document

After you create your document, you can define its properties. In the document properties, you can define the document type, the contents, and placeholder variables. The **Regulatory** tab appears when **Jurisdictions** is enabled in the System Settings.

After you create a document, you must define its properties in Design Manager.

Pages in the Property Panel display the following tabs:

- ♦ **Basic**—Provides options to define the document type, contents, and placeholder variables.
- ♦ **Targeting**—Provides options to set and apply page rules.
- ♦ **Composition**—Provides options to set page numbering and table of contents.
- ♦ **Duplex**—Provides options to additional duplex properties.
- ♦ **Regulatory**—Provides options to apply jurisdictions and effectivity. The **Regulatory** tab appears if your organization's installation includes the Compliance Support module.



Observe the demonstration.

Adding a page to a document

Each HP Exstream application must contain at least one document with one page and one data file in the Library.

To add a page to a document, do one of the following:

- ◆ Expand the **Pages** heading and the **Documents** heading.
- ◆ Drag the page into the appropriate document.

The document processes pages in the order they are listed in Design Manager.

Referenced objects

A referenced object is an object appearing under another object, such as a message, that links to its original elsewhere in the Library. A referenced object is denoted by a small arrow in the lower left corner of the icon. In the Library, when you drag one object into another object (for example, a page into a document), it creates a reference to the original object. When you modify or create changes in the original object, the referenced object also changes. Deleting a referenced object does not delete the original. Renaming a referenced object also changes the name of the original object.



Observe the demonstration.

Creating and defining a design object

You use design objects for the layout and composition of pages and messages.

Design objects include the following:


- ◆ Barcodes
- ◆ Charts
- ◆ Contents of other pages or messages
- ◆ Frames
- ◆ Images
- ◆ Library components
- ◆ Tables
- ◆ Polygons
- ◆ Polylines
- ◆ Shapes
- ◆ Polyshapes
- ◆ Text boxes
- ◆ Imported or inserted objects

Because you create objects with the Drawing Objects toolbar, you can also call them Drawing Objects.

Creating a text box

You use text boxes to place text on a page. Text boxes also hold other types of design objects, such as shapes imported image, or variables.

To create a text box in Designer, you can do one of the following:

- ◆ Click the **Text**  button from the Drawing Objects toolbar.
- ◆ From the Menu bar, click **Insert > Drawing Object > Text**.

The cursor changes to let you insert a text box on the page.

Place the cursor where you want the text box to appear and click your left mouse button. A text box appears on the page at the insertion point. You can drag a corner to size the text box, or you can adjust its size later.

Defining a design object

Design objects have properties that define their characteristics, such as size or position.

To define or modify a design object's properties, right-click the object and select **Properties** from the shortcut menu. The **Properties** dialog box opens. From here, you can select various options organized under several tabs.

The following table details the default tabs and the options available to define properties:

TAB TITLES AND DESCRIPTIONS

TAB	DESCRIPTION
Lines and Fill	Place a border or apply fill to an object.
Placement	Adjust the object position and size.
Dynamic Size and Placement	Dynamically adjust an object's size and placement.
Rule	Place rule to control an objects inclusion or exclusion at run-time.

Many design objects have additional tabs and options available.

Reference names

A reference name is a unique name for a Designer object. By default, the object's type is its reference name. For example, a text box's reference name is Text. Use unique reference names for design objects to make it easier to troubleshoot engine report files.

To set an object's **Reference name**, select the **Dynamic Size and Placement** tab from the **Properties** dialog box and enter the new name for the object in the **Reference name** box.

Defining text box properties

To modify text box properties, right-click and select **Text Properties** from the shortcut menu. The **Text Properties** dialog box opens, enabling you to modify the text box's properties.

In addition to the four default tabs, the **Text** tab is available and contains properties specific to text boxes.

After you make modifications to the desired object properties, click **OK** to apply your changes.

Handles

Handles are the outlines on an active figure. You use handles to manipulate an object's size, dimensions, shape, and positioning.


DESIGN OBJECT HANDLES AND DESCRIPTIONS

FEATURE	DESCRIPTION
Major handle	Major handles indicate that you are working on the object itself.
Minor handle	Minor handles indicate you are editing inside the object. If a text box has major handles you can resize. If the text box has minor handles, you can edit the text in it. Minor handles are also used to indicate that objects are grouped.
Square icon	The square icon is located at the upper-left corner of an active design object. It is used to move an object.
Rotation circle	The rotation circle, the blue arrow on the left of the active object, is used to rotate the object. While you are rotating the object, the rotation angle appears on the status bar.

Inserting variables

Variables can be inserted into a text box, message, paragraph, or table to create personalized content.

To insert a variable into a text box, you must first make it active by clicking on the text box. A cursor appears within the text content. Then either:

- ♦ Click the **Variable Palette**  button from the Standard toolbar.
- ♦ From the Menu bar, click **Insert > Variable > More Variables**.
- ♦ The **Variable Palette** opens. Double-click the desired variable to insert it inline with text.

Note:

The variable does not display until you run the engine. Only the variable's **Design sample** displays before running the engine.

Removing empty variable lines

A blank space appears by default when a field is not populated for a mapped value in an Engine run. To prevent this, select the **Remove empty variable lines** check box on the **Text** tab of the **Text Properties** dialog box.

Designing object operations

After you place a design object on a page, you can select it to make it active. Use the Position toolbar to perform the following object operations on it. You can perform some operations on both single and multiple objects.

OPERATION	DESCRIPTION
Align or distribute objects	Align or distribute objects precisely within the space they occupy.
Clone or copy objects	Copy an object to a new location.
Constrain objects while moving them	Enables movement in only horizontal or vertical directions.
Cut objects	Remove objects and place them on the clipboard.
Delete objects	Remove the object without placing it on the clipboard.
Group objects	Select multiple objects to perform a single function on all.
Keep objects on the page	Issues a message if objects appear off the page.
Move objects	Drag the object to a new location.
Nudge objects	Provides precise control when moving objects.
Paste objects	Place objects on the clipboard onto the page.
Resize objects by dragging	Use handles to stretch or shrink objects.
Rotate objects	Rotate objects clockwise or counterclockwise.
Select objects	Click one or more objects to select them.
Undo and redo	Enables you to redo or undo an operation you have just performed.

Position toolbar



Grouping objects

You can group multiple objects to perform a single function that affects all the objects in the group. This is useful for objects that are adjacent to or overlap each other. You can group and ungroup objects in HP Exstream using the grouping tools on the Position toolbar.

To group objects in Designer, hold down the SHIFT key and click each object to be grouped. Right-click the objects and select **Group > Group** from the shortcut menu. Selecting one object in a group then selects all objects in its group.

To ungroup objects in Designer, right-click the grouped objects and select **Group > Ungroup** from the shortcut menu.

Object order

You can order objects by placing them behind or in front of other objects in HP Exstream using the object ordering tools on the Position toolbar.

To order objects, click the desired object and click an ordering button from the Position toolbar. The object appears in the order you have selected.



Observe the demonstration.

Importing content to a page

Files created in other programs can be easily imported into HP Exstream using the Import feature. You can import:

- ♦ Text—.txt and .rtf files
- ♦ Images
- ♦ Tables

For instructional purposes, this lesson focuses on the process of importing text and image files.

Importing text

You can use HP Exstream to import plain text (.txt) and rich text format (.rtf) files. You can use this function to quickly populate text boxes.

Note:

Certain document formats, such as Word or WordPerfect, cannot be imported as they are into HP Exstream. You can import them into HP Exstream as OLE objects (images) or export them from Word or WordPerfect in plain text (TXT) or rich text format (RTF).

To import text into a text box, you can either:

- ♦ Click **Insert > Import > Text File** from the Menu bar.
- ♦ Right-click at the insertion point and select **Insert > Import Text File** from the shortcut menu to open the **Open** dialog box. Browse to the desired file and click **Open**. The contents of the file are imported into the text box or table cell.


Note:

- When using RTF files, your content can be imported into HP Exstream with all its original formatting, including margins, justification, alignment, font styles.
 - You can place variable content in text files by placing the variable names in less-than or greater than brackets (<>). When the text file is imported, HP Exstream automatically inserts the variables into the text. The variable must exist in an HP Exstream Data Dictionary prior to the import.
-

Importing images

You can place images on your page by importing them into HP Exstream.

To import an image into Designer, you do one of the following:

- ♦ Select **Insert > Drawing Object > Image** from the Menu bar.
- ♦ Click the **Image**  button on the Drawing Objects toolbar to open the **Import an Image** dialog box.

Browse to the desired image file and click **Open**. The **Import an Image** dialog box changes.

Select the desired options and click **OK**. You are prompted to confirm the image file import. Click **OK** and the image appears on the page.

Defining an image

You can treat the image as you would any design object, including modifying its properties from the **Image Properties** dialog box. The additional **Image** tab lets you override automatic resource-naming process of HP Exstream with a user-defined name if your print stream has unique restrictions on file names.



Observe the demonstration.

Learning check: Creating pages and documents

Here are your requirements. Prior to using HP Exstream, discuss how to complete them.

DISCUSSION

REQUIREMENTS	IN HP EXSTREAM
Create the Service Update Letter by using the page template.	
Put the page into the Service Update document.	
Include the content from the existing ServiceUpdate.rtf file.	



To complete the following exercises:

- Refer to the *Design Example* in the *101 Lab Guide*, if necessary.
- Make sure you are working in the **Module 2** folder.
- Use each task's corresponding step-by-step instructions if you need help.




Create and define a page in Design Manager. This is a two-part exercise.

TASK	SPECIFICS
Create a page.	Open the New Page dialog box.
Define a page.	Name it Service Update Page . Use the Letterhead page template.

Part 1: Create a page

1. Expand the **Exstream > Class Exercises > Module 2** folder.
2. Right-click the **Pages** heading and select **New Page** from the shortcut menu.

Part 2: Define a page

1. Enter **Service Update Page** in the **Name** box.
2. Enter **Service Update Letter Page** in the **Description** box.
3. Click **Next**.
4. Click the **Page Template**  button and select **Letterhead** from the **Page Template** dialog box.
5. Click **OK** to close the **Select Page Template** dialog box.
6. Click **Finish** to close the **New Page** dialog box.
7. Close the Property Panel to accept the default page properties.



Create and define a document in Design Manager. This is a two-part exercise.

TASK	SPECIFICS
Create a document.	Open the New Document dialog box.
Define a document.	Name it Service Update Document .

Part 1: Create a document

1. Expand the **Exstream > Class Exercises > Module 2** folder.
2. Right-click the **Documents** heading and select **New Document** from the shortcut menu.

Part 2: Define a document

1. Enter **Service Update Document** in the **Name** box.
2. Enter **Service Update Letter Document** in the **Description** box.
3. Click **Finish** to close the **New Document** dialog box.
4. Close the Property Panel to accept the default document properties.



Add a page to a document.

TASK	SPECIFICS
Add a page to a document.	Add the Service Update Page to the Service Update Document .


1. Expand the **Exstream > Class Exercises > Module 2 > Documents** heading.
2. Expand the **Exstream > Class Exercises > Module 2 > Pages** heading.
3. From the Library, drag the **Service Update Page** and drop it on the **Service Update Document**.
4. Drag the **Service Update Page** to the Edit Panel.



Create and define a design object. This is a three-part exercise.

TASK	SPECIFICS
Create the letter body text box.	Create a text box on the Service Update Page in Designer.
Define the design object in Designer.	Size it to match the <i>Design Example</i> in the <i>Lab Guide</i> .
Remove blank lines in the customer address.	Eliminate blank lines in the customer address.

Part 1: Create the letter body text box

1. Click the **Text**  button on the Drawing Objects toolbar.
2. Click anywhere on the page to insert a text box.

Part 2: Define the design object in Designer

1. Right-click the text box and select **Text Properties** from the shortcut menu.
2. Click the **Dynamic Size and Placement** tab.
3. Enter **Letter Body** in the **Reference** name box.
4. Clear the **Autosize width** check box.
5. Select the **Autosize height** check box.
6. Click the **Placement** tab.
7. Adjust the text box's **Horizontal position** and **Vertical position** using the *Design Example* in the *Lab Guide*.
8. Adjust the text box's **Width** using the *Design Example* in the *Lab Guide*.


Part 3: Remove blank lines in the customer address

1. Click the **Text** tab.
2. Select the **Remove empty variable lines** check box.
3. Click **OK** to close the **Text Properties** dialog box.
4. Save your page.



Import content to a page in Designer.

TASK	SPECIFICS
Import content from a file on disk.	Import the ServiceUpdate.rtf file.

1. Click the text box to enable editing mode.
2. Right-click and select **Insert > Import Text File**.
3. Browse to the **C:\101 Introduction to HP Exstream\Text Files** directory.
4. Select the **ServiceUpdate.rtf** file.
5. Click **Open** to import the file.
6. Click the **Toggle Variable Mode**  button on the Properties toolbar (lower left-hand corner) to toggle between the variable names and their design samples.
7. Save and close your page.

Packaging for output

When designing your business correspondence, you can display your output on-screen for review. To do so, you must combine your objects with customer data, an output device, and any design resources, such as fonts and images, in an application that you package for output.

This lesson discusses how applications are created, packaged, and run through the engine to produce output.

Objectives

After you complete this lesson, you should be able to do the following:

- ♦ Create and define an application.
- ♦ Assemble an application.
- ♦ Package an application and run the engine.
- ♦ View the output using the Exstream Viewer.

Terms

Important terms used in this lesson include:

- ♦ **Application**—A container that holds all objects needed for packaging to create a personalized communication. Applications are stored under the **Applications** heading in the Library.
- ♦ **eDrivers**— A suite of output driver modules specifically designed for electronic delivery. Examples include HTML and PDF.
- ♦ **pDrivers**—A suite of output driver modules specifically designed for delivery to printers. Examples include Meta-code and PostScript.
- ♦ **Package file**—A file containing all the objects necessary to run in production mode.

Additional information

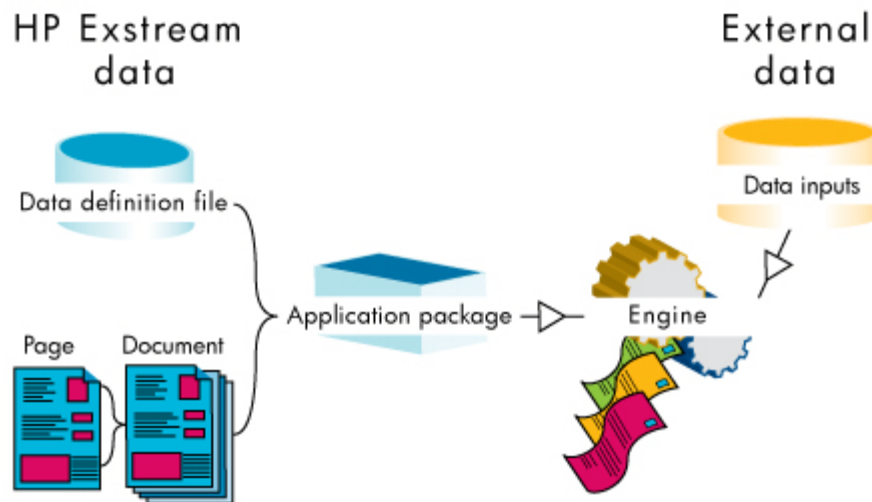
For more information on this topic, refer to the following guides:

- ♦ *Packaging and the Design Engine* guide
- ♦ *Production Environment* guide

Creating and defining an application

An application is a container that holds all the objects needed to create customized communication. It must contain one or more data files and documents.


Applications combine documents and data files



Applications are created and defined exclusively in Design Manager.

Creating an application

To create an application, you do one of the following:

- ◆ Highlight the **Applications** heading in the desired folder and click .
- ◆ Right-click the **Applications** heading in the desired folder and select **New Application** from the shortcut menu.

When you click the **Finish** button, the application is added to the **Applications** list and displayed in the Property Panel for you to define.

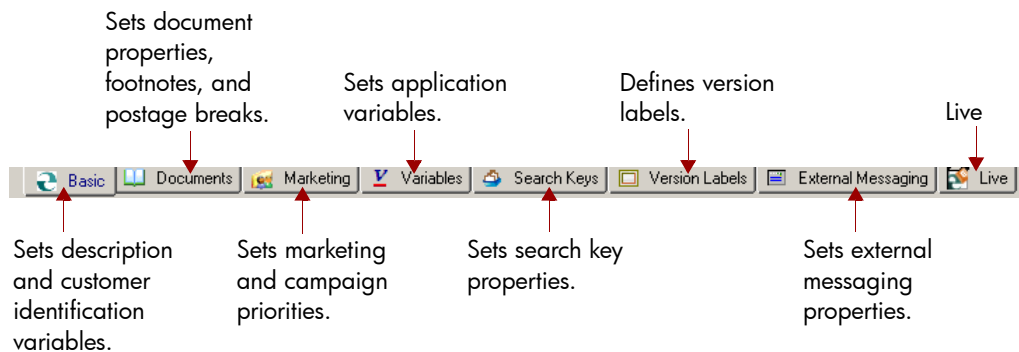
Defining an application

After you have created your application, you define its properties in the Property Panel by using the following tabs:

- ♦ **Basic**
- ♦ **Documents**
- ♦ **Marketing**
- ♦ **Variables**
- ♦ **Search Keys**
- ♦ **Version Labels**
- ♦ **External Messaging***
- ♦ **Live**

This tab is not activated by default in the a database. You must activate it in the System Settings.

Application property tabs in the Property Panel



Note:

The interactive (Live) capabilities of HP Exstream let you deliver a controlled editing experience to enhance productivity, while ensuring compliance with your front office-generated communications. Live document applications are created in the same design environment as other standard HP Exstream document applications, and leverage most HP Exstream content integration and delivery capabilities.

In this course, you use the fully configured HP Exstream suite of products, which includes Live. You will see the Live tab appear throughout Design Manager and Designer. This tab lets you configure documents with interactive settings. To learn more about how to create Live documents, HP offers the following training courses:

- *Interactive Document Fundamentals in HP Exstream*
- *Interactive Skill Building in HP Exstream*



Observe the demonstration.

Assembling an application

From the appropriate headings in the Library, you can add the following objects to an application:

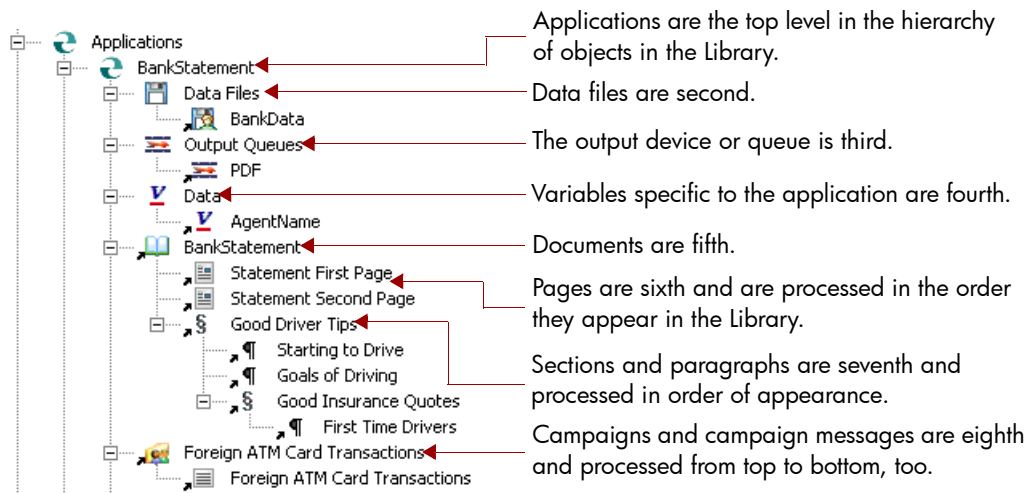
- ◆ **Documents**
- ◆ **Data files**
- ◆ **Output queues**
- ◆ **Campaigns**
- ◆ **Variables**

To add any of these objects to the application, drag and drop the object to the application. HP Exstream automatically creates object references to the application.

Object hierarchy

The order of objects in an application is very important. Objects should be placed in the order that they are processed and printed. The hierarchy of objects is demonstrated in the following screen capture.

Object hierarchy in the Library



Packaging an application and running the engine

A package file is a file containing all the objects necessary to run in production mode. When you package an application, the result is a package file (sometimes called a “pub” file) that combines objects such as:

- ♦ Data files
- ♦ Output devices or queues
- ♦ Application-specific variables
- ♦ Documents
- ♦ Pages
- ♦ Sections and paragraphs
- ♦ Campaigns and campaign messages
- ♦ Fonts


Package files reference all design and marketing information, as well as data and output settings for customer output.

Note:

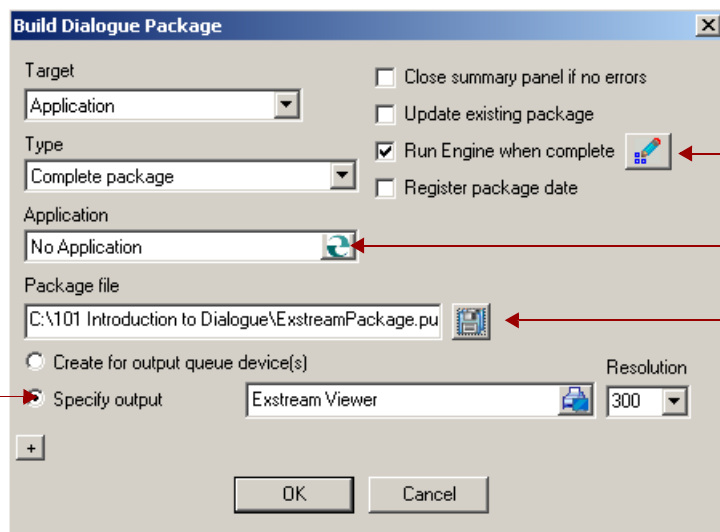
The default extension for a package file is .pub.

Building a package file

Package files are created and modified in Design Manager. To create a package file, you:

- ♦ Select the application to package and click  on the Standard toolbar.
- ♦ Right-click the application to package and select **Package Application** from the shortcut menu.
The **Build Dialogue Package** dialog box opens. From here, you can select various packaging options.

Build Dialogue Package dialog box



Opens the **Run the Engine** dialog box.

Lets you select the correct application to package.

Specifies the location of the package file.

You can produce package files for output queues or specify output for specific output devices.

Click **OK**. The package file is created and saved.

Output

Your ability to produce output in a variety of formats and print streams is dependent on the particular set of modules and output drivers that your system administrator enables.

An output driver assembles application information for final electronic or print output. Your choice of output driver directly influences the production methods and delivery options available for a run.

eDrivers

Electronic drivers (eDrivers) are non-printer output drivers that support output in electronic media-oriented standards, as listed below:

- ◆ DLF (Live Format file)
- ◆ HTML (Hyper Text Markup Language)
- ◆ PDF (Portable Document Format)
- ◆ PDF/A-1b
- ◆ PowerPoint
- ◆ RTF (Rich Text Format)
- ◆ TIFF (Tagged Image File Format)
- ◆ XML (Extensible Markup Language)
 - Composed XML
 - Content XML
 - Data XML

pDrivers

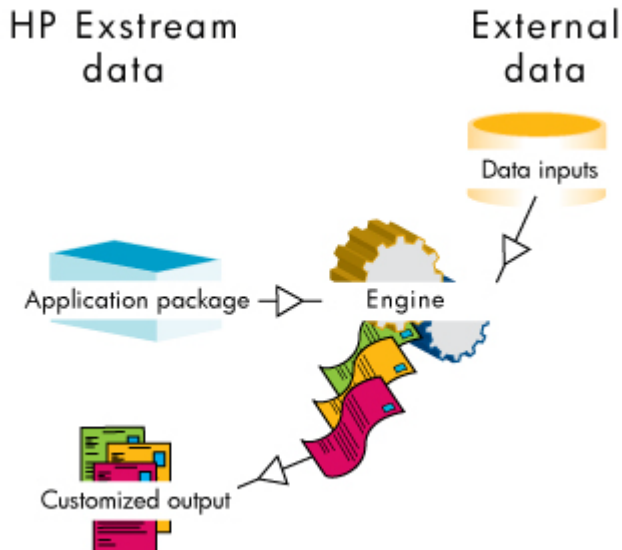
Printer drivers (pDrivers) are printer format drivers that support output in printer-oriented standards, as listed below:

- ◆ 3211 Line Data
- ◆ AFP (Advanced Function Presentation)
- ◆ IJPDS (Ink Jet Printer Data Stream)
- ◆ Metacode
- ◆ MIBF (Memory Image Bitmap File)
- ◆ PCL (Printer Control Language)
- ◆ PostScript
- ◆ PPML (Personalized Print Markup Language)
- ◆ VDX (Variable Data Exchange)
- ◆ VIPP (Variable Data Intelligent PostScript PrintWare)
- ◆ VPS (Variable Print Specification)



Running the design engine

The Design engine reads the package file to produce one or more output files for the output driver specified in the package.

Package files are processed by the engine to create output

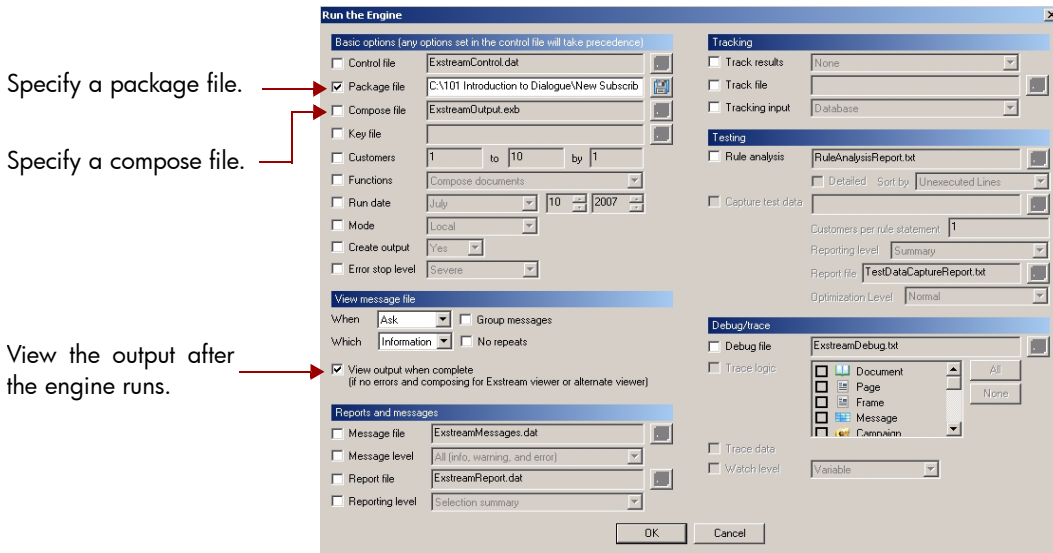


After creating a package file, you can run the Design engine from the Design Manager interface. You can choose to run the engine:

- ◆ Immediately after packaging an application by selecting the **Run Engine when complete** check box and clicking the  from the **Build Dialogue Package** dialog box.
- ◆ By clicking  from the Standard toolbar.

The **Run the Engine** dialog box opens. From here you set various engine run options and run the engine.

Run the Engine dialog box

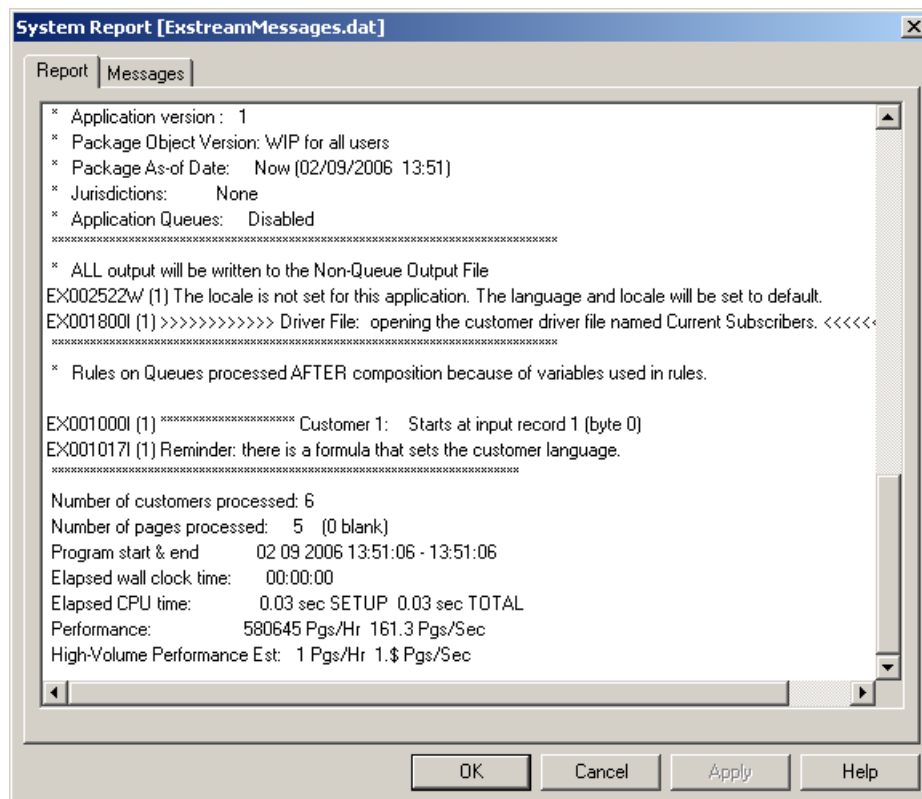


After making your selections, click **OK**. Click **OK** on the **Build Package** dialog box to run the engine. During this process, the engine:

- ◆ Builds a requirements list
- ◆ Creates target resources
- ◆ Packages objects
- ◆ Views messages

After the engine runs, HP Exstream displays the engine message file. This system report displays information about the engine run, such as the files used, the number of customers processed, and the number of pages output. It also displays any error information.

System Report



Observe the demonstration.

Viewing the output using the Exstream Viewer

After the engine reads a package file, you can review the output with the Exstream Viewer.

Exstream Viewer

The Exstream Viewer is a default output device that lets you view your document output on-screen. If output is composed specifically for the Exstream Viewer, Designer automatically launches and displays composed output.




You use the Exstream Viewer to preview composed documents before going into production. Your output for the Viewer depends on:

- ♦ If the engine is run to compose documents for the Exstream Viewer, the output file can be viewed directly in Designer. This option is set on the **Build Package** dialog box.
- ♦ If you select the **View output when complete** check box, you can preview the output immediately after running the engine. This option is set on the **Run the Engine** dialog box.

The composed document prints as it appears on-screen with a few exceptions. The Exstream Viewer displays output in color and one page at a time, regardless of whether the paper type used is simplex or duplex.

Browsing output

To browse through Exstream Viewer output:

- ♦ Use your keyboard's PAGE UP and PAGE DOWN keys.
- ♦ Click  on the Compose File toolbar to bring up the **Compose File Navigator** dialog box. Use the arrows to navigate through output.
- ♦ Click  on the Compose File toolbar to advance to the next customer's document set.
- ♦ Click  on the Compose File toolbar to advance to the next page.

Proofing output

As you view composed output, you may find errors. While in the Viewer, you can proof and edit your documents.

To edit composed output, double-click the selected object to open the design version of the object in Designer. Make the desired changes and save the design version of the object before you package the application containing the document and run the engine again.



Observe the demonstration.

Learning check: Packaging for output

Here are your requirements. Prior to using HP Exstream, discuss how to complete them.

REQUIREMENTS	IN HP EXSTREAM
View the Service Update Letter on screen.	



To complete the following exercises:

- Refer to the *Design Example* in the *101 Lab Guide*, if necessary.
- Make sure you are working in the **Module 2** folder.
- Use each task's corresponding step-by-step instructions if you need help.



Create and define an application in Design Manager. This is a two-part exercise.

TASK	SPECIFICS
Create an application.	Open the New Application dialog box.
Define an application.	Name it Service Update Application .

Part 1: Create an application

1. Expand the **Exstream > Class Exercises > Module 2** heading.
2. Right-click the **Applications** heading and select **New Application** from the shortcut menu.

Part 2: Define an application

1. Enter **Service Update Application** in the **Name** box.
2. Enter **Service Update Letter Application** in the **Description** box.
3. Click **Finish** to close the **New Application** dialog box.
4. Close the Property Panel to accept the default application properties.



Assemble an application. This is a two-part exercise.

TASK	SPECIFICS
Add a data file and a document to an application.	<ul style="list-style-type: none"> • Add the Service Update Document document to the Service Update Application. • Add the New Subscribers data file.
Add the Retail Locations data file to the application.	<ul style="list-style-type: none"> • Using the Layout view, verify the variables mapped in the Retail Locations data file in the Exstream, or root folder. • Add the Retail Locations data file beneath the New Subscribers data file.

Part 1: Add a data file and a document to an application

1. Expand the **Exstream > Class Exercises > Module 2 > Applications** heading.
2. Expand the **Exstream > Class Exercises > Module 2 > Data Files** heading.
3. Drag the **New Subscribers** data file and drop it on the **Service Update Application**.
4. Expand the **Exstream > Class Exercises > Module 2 > Documents** heading.
5. Drag the **Service Update Document** and drop it on the **Service Update Application**.

Part 2: Add the Retail Locations data file to the application

The Letterhead page template has store name and address variables. The variables are mapped to the **Retail Locations** data file in the root folder. For the store's name and address to appear in your output, this data file must be added to your application.



1. Expand the **Exstream > Data Files** heading.
2. Drag the **Retail Locations** data file from the root folder into the Edit Panel.
3. With the pointer in the Edit Panel, right-click and select **View > View Layout** from the shortcut menu.
4. Verify the variables mapped in the **Retail Locations** data file.
5. Expand the **Exstream > Class Exercises > Module 2 > Applications > Service Update Application > Data Files** heading.
6. Drag the **Retail Locations** data file from the root folder and drop it beneath the **New Subscribers** data file in the **Service Update Application**.




Package an application and run the engine. This exercise is a three-part exercise.

TASK	SPECIFICS
Specify packaging parameters and identify an output package file	<ul style="list-style-type: none"> • Open the Build Dialogue Package dialog box. • Specify Service Update.pub as the package file. • Specify the Exstream Viewer for your output. • View the engine message file.
Select the engine run parameters	<ul style="list-style-type: none"> • Select the Run Engine when complete check box. • Open the Run the Engine dialog box. • Select the Package file check box. • Select the View output when complete dialog box.
Package and run the application	<ul style="list-style-type: none"> • Package the application. • View the engine message file.

Part 1: Specify the packaging parameters and identify an output package file

1. Expand the **Exstream > Class Exercises > Module 2 > Applications** heading.
2. Select the **Service Update Application**.
3. Click the **Package**  button on the Standard toolbar.
4. Click the **File Selector**  button in the **Package file** box and browse to the **C:\101 Introduction to HP Exstream** folder.
5. Enter **Service Update.pub** in the **File name** box.
6. Click **Open**.
7. Select the **Specify output** radio button and leave Exstream Viewer as the default output device.

Part 2: Select the engine run parameters

1. Select the **Run Engine when complete** check box.
2. Click the **Run Engine When Complete** (Pencil)  button.
3. Select the **Package file** check box.
4. Select the **View output when complete** check box.
5. Clear all the other check boxes on the **Run the Engine** dialog box.
6. Click **OK** to close the **Run the Engine** dialog box.

Part 3: Package and run the application

1. Click **OK** to package and run the application.
2. Select **Yes** to view the engine message file.
3. Scroll to the bottom of the message file and verify that five customers were processed and five pages produced.
4. Click **OK** to close the message file.

The Service Update Application is packaged and the engine is run to produce output.



View the output using the Exstream Viewer.

TASK	SPECIFICS
View the output using the Exstream Viewer.	Use the Exstream Viewer.

1. Click in the composed output window.
1. Press the PAGE DOWN key on your keyboard to page down through your output.
2. Press the PAGE UP key on your keyboard to page up through your output.
3. Close the Exstream Viewer.
4. Close the **Building Production Package File** dialog box.



Answer the following questions.

1. Does the output meet the design requirements?
2. Did the correct customers get a second address line?
3. Does the correct store name and address appear on each letter?

Designing pages

HP Exstream lets you quickly create communications by reusing objects and existing content. This lesson discusses how to reuse objects and use and reformat existing content.

Objectives

After you complete this lesson, you should be able to do the following:

- ♦ Clone an object.
- ♦ Create and define a Library component.
- ♦ Format text.
- ♦ Embed an object.

Terms

Important terms used in this lesson include:

Embedded object—An object that has been inserted in a table cell or text box. You can specify that embedded objects be inline with, or linked to, text. These objects can grow and move dynamically with the anchoring text.

Additional information

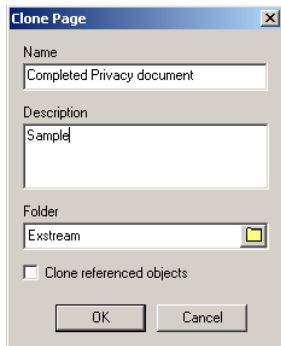
For more information on this topic, refer to the following guides:

- ♦ *Create and Format Text* guide
- ♦ *Design Objects* guide

Cloning an object

You can duplicate an existing object in the Library by cloning it. Unlike references, clones are exact copies, not a pointer to another object. To clone an object, right-click and select **Clone** from the shortcut menu. You must enter a new name or folder.

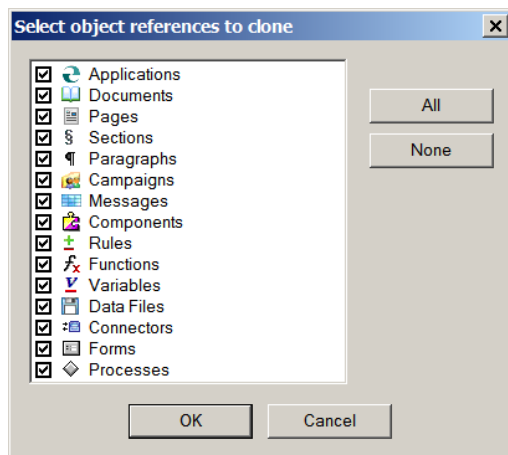
Clone dialog box



Cloning referenced objects

When cloning an object that contains referenced objects, you can also clone its references by selecting the **Clone referenced objects** check box. When you click **OK**, the **Select object references to clone** dialog box opens.

Select object references to clone dialog box



Select the objects you want to clone and click **OK**.

Note:

If you choose not to copy references to certain objects, the references point to the same object as the original.

When cloning referenced objects, you must clone the higher-level object to a new folder or you receive an error message. If you clone to a folder that has objects in it named the same as a referenced object being cloned, the referenced objects are not cloned.



Observe the demonstration.

Creating and defining a Library component

To reuse design objects, you can save them as Library components. For example, if you use the same address block across all customer documents, you can save the text box in which all the variables are used as a Library component. This lets you save time from recreating objects that are used repeatedly.

Note:

Multiple shapes and text boxes or other groups of objects cannot be saved as Library components. Multiple shapes can be a component if they are embedded.

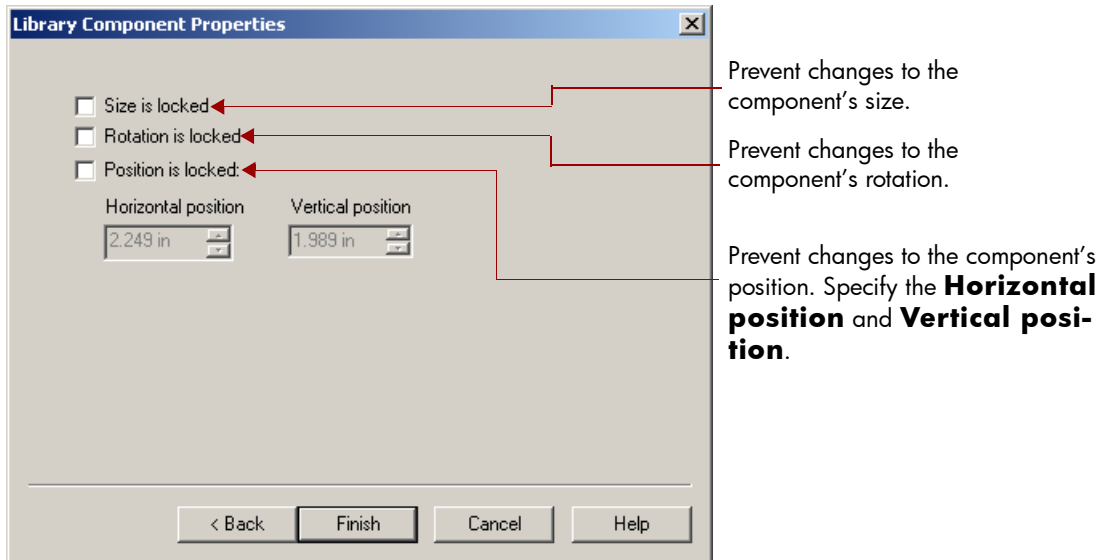
Creating a Library component

In Designer, create a Library component from a design object by right-clicking the object and selecting **Library component > Add to Library** from the shortcut menu. The **Folders** dialog box opens and prompts you to save the component to a specific folder in the Library. Select **OK** and give the component a name and a description. When you click **Next**, the **Library Component Properties** dialog box opens.


Defining a Library component

The **Library Component Properties** dialog box lets you define additional placement properties for the component.

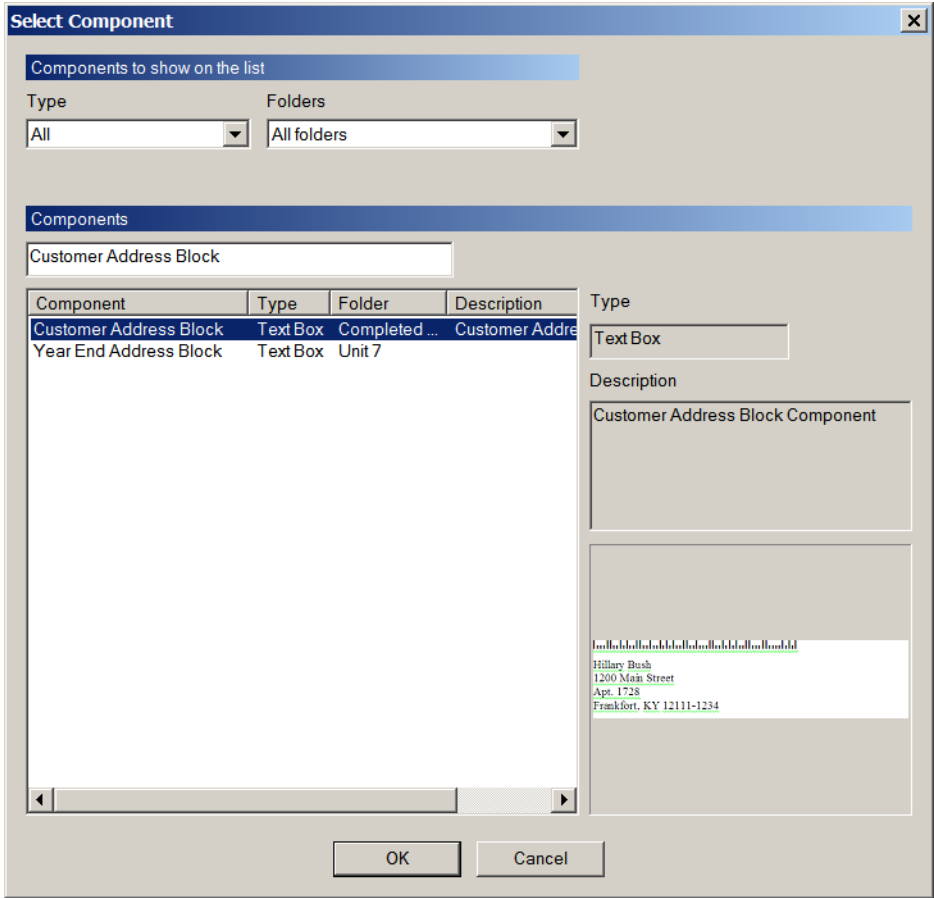
Library Component Properties dialog box



Using a Library component

To use Library components on a page or message, click  on the Drawing Objects toolbar to open the **Select Component** dialog box.

Select Component dialog box



Component	Type	Folder	Description
Customer Address Block	Text Box	Completed ...	Customer Address Block Component
Year End Address Block	Text Box	Unit 7	

Type: Text Box


Description: Customer Address Block Component

Preview: Hillary Bush
1200 Main Street
Apt. 1728
Frankfort, KY 12111-1234

Select the desired component from the **Components** list and click **OK**. If the component has specific placement properties applied to it, it is placed at the location specified by the component properties.

Note:

To make changes to the component's size, rotation, or position, right-click the component and select **Library component > Make Unnamed Copy** from the shortcut menu.

 Observe the demonstration.

Formatting text

When creating text content in HP Exstream, you can use the Formatting toolbar to apply formatting options.

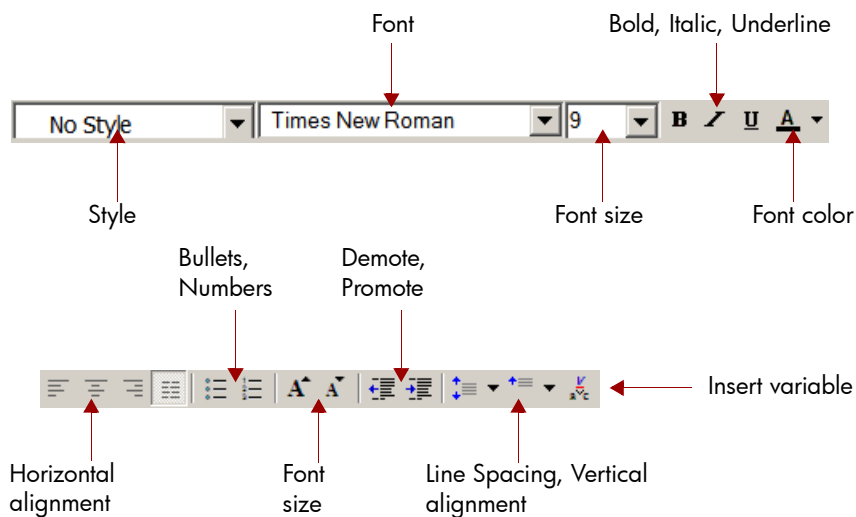
To apply formatting options to text, highlight the text to be formatted and:

- ◆ Click a format option button on the toolbar.
- ◆ Select an option from the drop-down lists.

Formatting toolbar

The Formatting toolbar lets you apply font properties. To view the Formatting toolbar, click **View > Toolbars > Formatting**.

Formatting toolbar



Note:

The Formatting toolbar is active only in text editing mode when working with text boxes or table cells.



Observe the demonstration.

Embedding an object

An embedded object is an object that has been inserted in a table cell or text box. You can specify that embedded objects be inline with, or linked to, text. These objects can grow and move dynamically with the anchoring text. Embedding objects is an easy way to control an object's position and placement on a page. You can embed:

- ◆ Tables
- ◆ Text boxes
- ◆ Images
- ◆ Charts
- ◆ Shapes
- ◆ Library components
- ◆ Graphic messages
- ◆ Content frames

Embedded objects become part of the table or text box in which they have been placed. If the text box or table cell containing the embedded object is deleted, the object is also deleted.

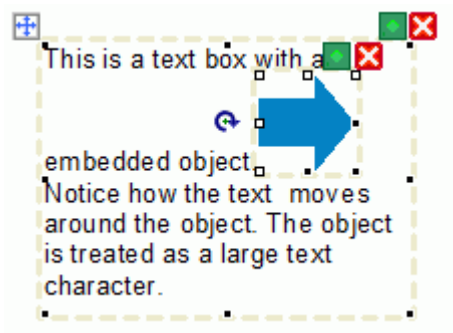
Embedded object methods

An embedded object's method is determined by its behavior when embedded.

Inline embedded objects

Inline objects stay inline with the text or data within the text box or table cell. Text cannot wrap around inline embedded objects.

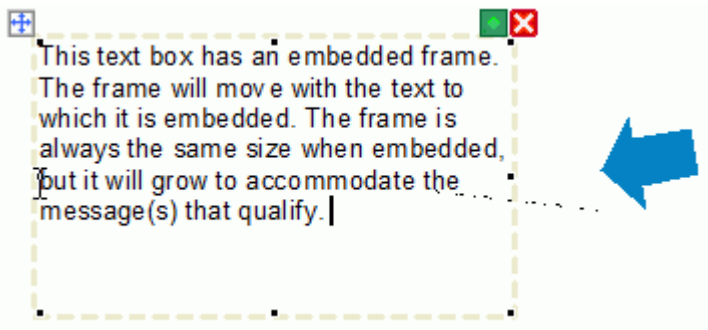
Text box with inline embedded image



Linked embedded objects

Linked objects can be dragged outside of the text box or table cell, but these objects are linked to the text or data at the insertion point. Linked embedded objects can be nudged and rotated.

Text box with linked embedded frame

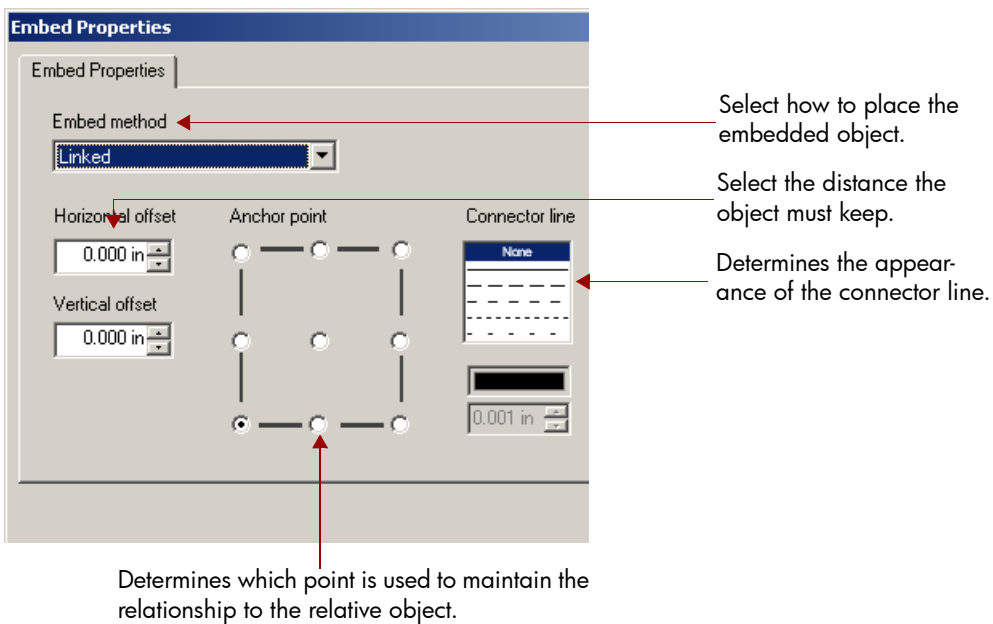


Embedding objects

To embed an object in a text box or table, you can either:

- ♦ From the Menu bar, select **Insert > Drawing Object**.
- ♦ In edit mode, click the button corresponding to the object you wish to insert on the Drawing Objects toolbar.

Embed Properties dialog box



Select your **Embed method** and other properties and click **OK**. The embedded object appears on the page according to the properties you have set.



Observe the demonstration.

Learning check: Designing pages

Here are your requirements. Prior to using HP Exstream, discuss how to complete them.

REQUIREMENTS	IN HP EXSTREAM
Create the New Subscriber Letter by reusing the Service Update Page .	
Add the customer address block so that it can be re-used at a later time.	
Create the letter body by importing the content from the NewSubscriber.txt file.	
Add John Thompson's signature.	



To complete the following exercises:

- Refer to the *Design Example* in the *101 Lab Guide*, if necessary.
- Make sure you are working in the **Module 2** folder.
- Use each task's corresponding step-by-step instructions if you need help.



Clone an object. This is an eight-part exercise.

TASK	SPECIFICS
Clone a page.	<ul style="list-style-type: none"> • Clone the Service Update Page and name it New Subscriber Page.
Create a document.	<ul style="list-style-type: none"> • Open the New Document dialog box.
Define a document.	<ul style="list-style-type: none"> • Name it New Subscriber Document.
Add a page to a document.	<ul style="list-style-type: none"> • Add the New Subscriber Page to the New Subscriber Document.
Remove unwanted content from the cloned page.	<ul style="list-style-type: none"> • Delete the existing Letter Body text box.
Create an address block.	<ul style="list-style-type: none"> • Create a text box. • Name it Customer Address Block. • Size it to match to the <i>Design Example</i> in the <i>Lab Guide</i>.
Add customer variables to the address block.	<ul style="list-style-type: none"> • Use the following variables in this format: <ul style="list-style-type: none"> — 'CustomerBarcode' — 'CustomerFirstName' 'CustomerLastName' — 'AddressLine1' — 'AddressLine2' — 'CustomerCity', 'CustomerState', 'CustomerZip'
Remove blank lines in the Customer Address block.	<ul style="list-style-type: none"> • Select the Remove empty variable lines check box.

Part 1: Clone a page

1. Expand the **Exstream > Class Exercises > Module 2 > Pages** heading.
2. Right-click the **Service Update Page** and select **Clone** from the shortcut menu.
3. Enter **New Subscriber Page** in the **Name** box.
4. Enter **New Subscriber Letter Page** in the **Description** box.
5. Click **OK** to close the **Clone Page** dialog box.

Part 2: Create a document

1. Expand the **Exstream > Class Exercises > Module 2** heading.
2. Right-click the **Documents** heading and select **New Document** from the shortcut menu.


Part 3: Define a document

1. Enter **New Subscriber Document** in the **Name** box.
2. Enter **New Subscriber Letter Document** in the **Description** dialog box.
3. Click **Finish** to close the **New Document** dialog box.
4. Close the Property Panel to accept the default document properties.


Part 4: Add a page to a document

1. Expand the **Exstream > Class Exercises > Module 2 > Documents** heading.
2. Expand the **Exstream > Class Exercises > Module 2 > Pages** heading.
3. From the Library, drag the **New Subscriber Page** and drop it on the **New Subscriber Document**.
4. Drag the **New Subscriber Page** to the Edit Panel.

Part 5: Remove unwanted content from the cloned page



1. Click the existing **Letter Body** text box and click the **Delete**  button to delete the text box.
2. Save your page.

Part 6: Create and define an address block

1. Click the **Text**  button on the Drawing Objects toolbar.
2. Click anywhere on the page to insert a text box.
3. Right-click the text box and select **Text Properties** from the shortcut menu.
4. Click the **Dynamic Size and Placement** tab.
5. Enter **Customer Address Block** in the **Reference** name box.
6. Clear the **Autosize width** and **Autosize height** check boxes.
7. Click the **Placement** tab.

8. Adjust the text box's **Horizontal position** and **Vertical position** to match the *Design Example* in the *Lab Guide*.
9. Adjust the text box's **Width** and **Height** to match the *Design Example* in the *Lab Guide*.
10. Click **OK**.

Part 7: Add customer variables to the address block

1. If the **Variable Palette** is not displayed, click the **Variable Palette**  button on the Standard toolbar.
2. Double-click the 'CustomerBarcode' variable.
3. Repeat the previous step to place the remaining variables in the text box.
4. Close the **Variable Palette**.
5. Position the variables in the text box using the *Design Example* in the *Lab Guide*.
6. Click the **Toggle Variable Mode**  button on the Properties toolbar (lower left-hand corner) to toggle between the variable names and their design samples.
7. Highlight the 'CustomerBarcode' variable in the text box and format the font to match the *Design Example* in the *Lab Guide*.
8. Highlight all other variables in the text box and format the font to match the *Design Example* in the *Lab Guide*.

Part 8: Remove blank lines in the customer address block

1. Right-click the customer address block and select **Text Properties**.
2. Click the **Text** tab.
3. Select the **Remove empty variable lines** check box.
4. Click **OK** to close the **Text Properties** dialog box.
5. Save your page.



Create and define a Library component. This is a two-part exercise.

TASK	SPECIFICS
Create a Library component.	<ul style="list-style-type: none">• Use the Address Block text box.• Name the new component Customer Address Block.
Lock the size and position of the address block.	<ul style="list-style-type: none">• Lock the component's size, position, and rotation.

Part 1: Create a Library component

1. Right-click the **Customer Address Block** text box and select **Library component > Add to Library** from the shortcut menu.
2. Browse to the **Class Exercises** folder.
3. Click **OK** to accept the folder.
4. Accept the **Name**.
5. Enter **Customer Address Block Component** in the **Description** box.
6. Click **Next**.

Part 2: Lock the size and position of the address block


1. Select the **Size is locked** check box.
2. Select the **Position is locked** check box.
3. Click **Finish**.
4. Save your page.



Format text. This is a three-part exercise.

TASK	SPECIFICS
Create the letter body.	<ul style="list-style-type: none"> • Create a text box. • Name it New Subscriber Letter Body. • Position it to match the <i>Design Example</i> in the <i>Lab Guide</i>.
Import content from a plain-text file.	<ul style="list-style-type: none"> • Import the NewSubscriber.txt text file.
Format the text by applying a font and adding bullets.	<ul style="list-style-type: none"> • Format the text to match the <i>Design Example</i> in the <i>Lab Guide</i>.

Part 1: Create the letter body of the text

1. Click on a blank spot on the page to deselect the **Customer Address Block** component.
2. Click the **Text**  button on the Drawing Objects toolbar
3. Click anywhere on the page to insert a text box.
4. Right-click the text box and select **Text Properties** from the shortcut menu.
5. Click the **Dynamic Size and Placement** tab.
6. Enter **New Subscriber Letter Body** in the **Reference** name box.
7. Clear the **Autosize width** and **Autosize height** check boxes.
8. Click the **Placement** tab.
9. Adjust the text box's **Horizontal position** and **Vertical position** using the *Design Example* in the *Lab Guide*.
10. Adjust the text box's **Width** and **Height** using the *Design Example* in the *Lab Guide*.
11. Click **OK** to close the **Text Properties** dialog box.
12. Save your page.

Part 2: Import content from a plain text file

1. Click the text box to place the cursor in it.
2. Right-click and select **Insert > Import Text File**.
3. Browse to the **C:\101 Introduction to HP Exstream\Text Files** directory.
4. Select the **NewSubscriber.txt** file.
5. Click **Open** to import the contents of the text file.

Part 3: Format the text by applying a font and adding bullets


1. Highlight all the text in the New Subscriber Letter Body text box and apply the font to match the *Design Example* in the *Lab Guide*.
2. Delete the asterisk (*) and the space from the beginning of the third paragraph.
3. Highlight all the text in the third paragraph.
4. Click the **Bullet** button on the Formatting toolbar.
5. Repeat steps 2–4 to add bullets to paragraphs 4 and 5.
6. Save your page.



Embed an object. This is a four-part exercise.

TASK	SPECIFICS
Embed an image.	<ul style="list-style-type: none"> • Import the Thompson-sig.jpg graphic file above the closing name. Use the <i>Design Example</i> in the <i>Lab Guide</i> for help. • Embed the Thompson-sig.jpg graphic file.
Prepare the application.	<ul style="list-style-type: none"> • Create a new application. • Name it New Subscriber Application. • Add the New Subscribers data file. • Add the New Subscribers Document.
Add the Retail Locations file.	<ul style="list-style-type: none"> • Add the Retail Locations data file under the New Subscribers data file.
Package for the Exstream Viewer and view the output.	<ul style="list-style-type: none"> • Package the New Subscriber Application and view your output using the Exstream Viewer.

Part 1: Embed an image

1. Click the **New Subscriber Letter Body** text box.
2. Place the cursor between *Sincerely* and *John Thompson*. Use the *Design Example* in the *Lab Guide* for help.
3. Click the **Image**  button on the Drawing Objects toolbar.
4. Browse to the **C:\101 Introduction to HP Exstream\Image Files** directory.
5. Select the **Thompson-Sig.jpg** file.
6. Click **Open** to accept the image file.
7. Click **OK** to import the image.
8. Click **OK**.
9. Click **OK** to accept the default **Embed method**.
10. Save and close your page.

Part 2: Prepare the application

1. Expand the **Exstream > Class Exercises > Module 2** heading.
2. Right-click the **Applications** heading and select **New Application** from the shortcut menu.
3. Enter **New Subscriber Application** in the **Name** box.
4. Enter **New Subscriber Letter Application** in the **Description** box.
5. Click **Finish** to close the **New Application** dialog box.
6. Close the Property Panel to accept the default application properties.
7. Expand the **Exstream > Class Exercises > Module 2 > Applications** heading.
8. Expand the **Exstream > Class Exercises > Module 2 > Data Files** heading.
9. Drag the **New Subscribers** data file and drop it into the **New Subscriber Application**.
10. Expand the **Exstream > Class Exercises > Module 2 > Documents** heading.
11. Drag the **New Subscriber Document** and drop it into the **New Subscriber Application**.

Part 3: Add the Retail Locations file

1. Expand the **Exstream > Class Exercises > Module 2 > Applications > New Subscriber Application > Data Files** heading.
2. Expand the **Exstream > Data Files** heading.
3. Drag the **Retail Locations** data file and drop it beneath the **New Subscribers** data file in the **New Subscriber Application**.

Part 4: Package for the Exstream Viewer and view the output

1. Right-click the application and select **Package Application** from the shortcut menu.
2. Direct the **Package file** to **C:\101 Introduction to HP Exstream\New Subscriber.pub**.
3. Package and run the application.
4. Click **Yes** to view the engine message file.
5. Browse through the message file.
6. Close the message file.
7. Browse through the output in the Exstream Viewer.
8. Close the Exstream Viewer.
9. Close the **Building Production Package File** dialog box.

Configuring flow in HP Exstream

HP Exstream lets you automatically control the number of pages needed for content. This lesson discusses how to use HP Exstream to create content that flows to pages generated as needed.

Objectives

After you complete this lesson, you should be able to do the following:

- ♦ Create and define a flow page.
- ♦ Create and define a flow frame.
- ♦ Define flow properties.

Terms

Important terms used in this lesson include:

- ♦ **Flow frame**—A special whitespace frame used to hold sections, paragraphs, and overflow content from text boxes and tables
- ♦ **Flow page**—A page that accepts overflow content from another page in an application
- ♦ **Flow list**—A list in which all flow pages linked to the current page appear in the order they are used

Additional information

For more information on this topic, refer to the following guides:

- ♦ *Applications, Documents, and Pages* guide
- ♦ *Flow and Relativity* guide

Creating and defining a flow page

Text boxes and tables have the ability to grow based on dynamic information. Sometimes the information may need more space than what is available. To ensure all the information is displayed, the text box or table must be set to flow.

You can control some flow options only at the document level because flow depends on the flow of the entire document. When there is more than one flowing page in the same document, each flow page creates a separate flow list. They also can interact, based on what is enabled in each type of frame, when overflow from two pages can go to the same page.

Note:

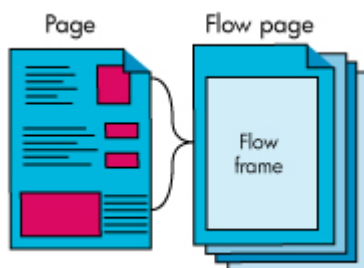
A flow list is a list of all flow pages linked to the current page in the order they are used.

For your content to flow, you need three objects:

- ♦ A flow page
- ♦ A flow frame
- ♦ An object that flows

If you do not have a flow page or flow frame, the output is truncated. The following diagram illustrates the relationship between flow page and flow frames.

Page flow to flow pages



- A page is the parent object. Content that does not fit on this page fills flow pages.
- Flow pages contain flow frames.
- Flow frames contain overflow content.

You can specify one flow page per page. That flow page can specify another flow page, and the length of this chain depends on your requirements. Flow pages repeat as necessary.

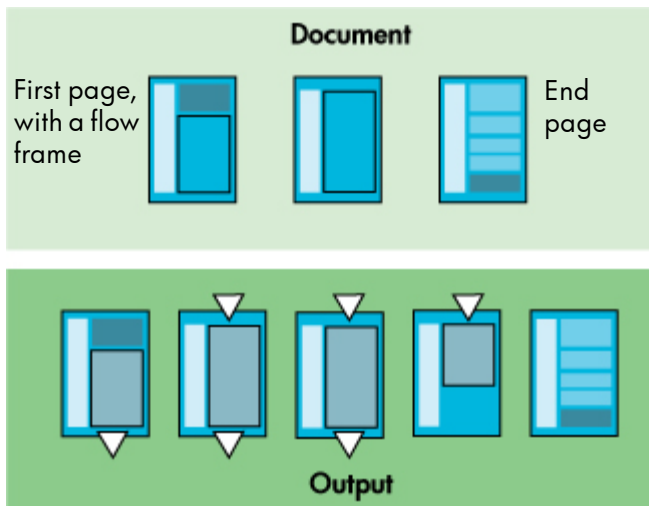
Creating a flow page

A flow page is a document page that accepts overflow content from another page. For example, if a table has six inches of space in design, but the content at run time requires ten inches, the remaining four inches carry over to a flow page.

Note:

It is not necessary to add a flow page to a document. However, some companies choose to do so for visual documentation.

Flow pages



A flow page must contain a flow frame large enough to accept the overflow. You define the flow properties of a page using the **Flow** tab on the Property Panel.

Defining a flow page

Designate what to do with overflow from a page on the **Flow** tab of its Property Panel.

Flow tab

Specify what to do with overflow.

The page that accepts page overflow.

Edit the properties of a highlighted list in the page.

Create a **Flow list** that lets you view all flow pages linked to the current page.

You select flow settings from the **Destination of overflow from this page** drop-down list:

DESTINATION OF OVERFLOW SETTINGS

SETTING	DESCRIPTION
None, ignore overflow	Overflow is lost. An engine message appears when there is no place to put overflow content. This is the default setting.
Copy this page	Overflow is placed on an exact copy of the current page.
Flow to specified page	Overflow is placed on another page. Select the page from the Page box.
Warning, issue message and continue	Displays a warning when the page is processed. The overflow is lost.
Error, issue message and stop	Issues error message and stops processing the application.

Page processing

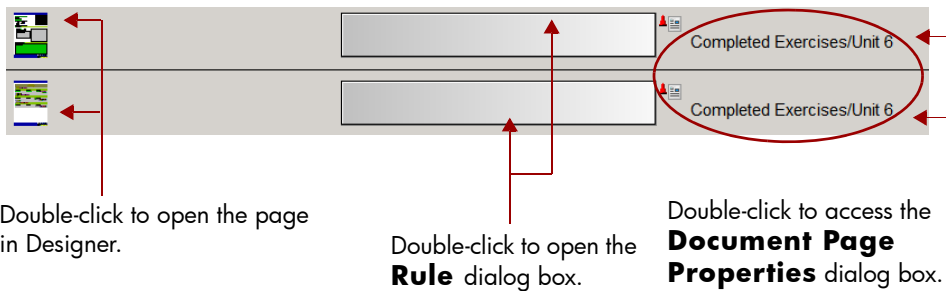
For a document that contains several pages, the pages are processed depending on their organization in the Library. Drag any flow pages below the original designed page in the order in which they are used.

In processing, the original page is created; then, if necessary, flow pages are created (as many as needed). Flow pages are ordered and placed in the Library or specified on the **Flow** tab of a page's properties.

Specifying flow pages in a document

When you display a document in the Edit Panel, the properties on the right give you information about each page or message in the document.

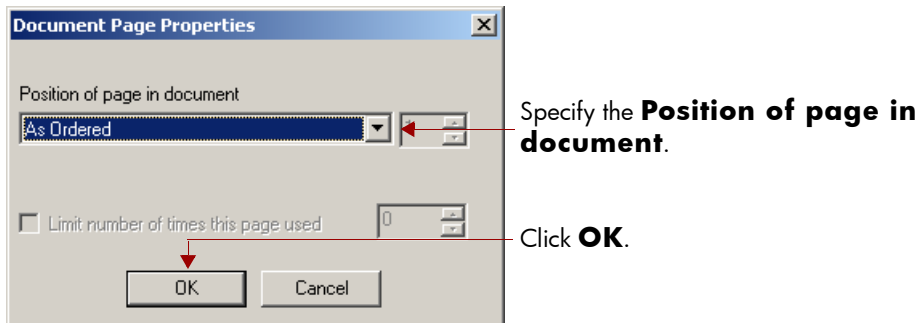
Document with flow page in the Edit Panel



Document page properties

The **Document Page Properties** dialog box lets you determine the position of the page in the document and the number of times a page can be used.

Document Page Properties dialog box



Select from the following options from the **Position of page in document** drop-down list.

POSITION OF PAGE IN DOCUMENT SETTINGS

OPTION	DESCRIPTION
As Ordered	Placed as it appears in the Edit Panel and the Library.
Specified Page Number	Always a specific page in the document.
Message-Driven (placed at end or on backs)	Produced by an overflow of messages. If the page is set to Copy this Page , the amount of message flow is determined by how many pages are used.
Flow Page	This page is produced by overflow from a text box or a table.
Last Flow Page in Document (if flows)	Always the last page used if there is enough flow to necessitate its use. HP Exstream determines the Height and Width of the flow frame on the last page and adjusts the flow to place items on the last page that fit in the frame.
Last Flow Page (even if no flow)	Always the last page in the document, even if there is no overflow content.

Limit number of times this page is used

Select the **Limit the number of times this page used** check box and enter a value in the box to the right if you want to use a page a specific number of times in your document.

Last flow page

The last flow page lets you specify the page that must appear at the end of the communication. For example, if you have a remittance slip that appears below a table, this feature ensures the slip is composed at the end of the flowing output.

If you select **Last Flow Page (even if no flow)**, the page is always used. Therefore, the flow frame on this page must:

- ◆ Hold a design object.
- ◆ Be set to receive a certain type of message that is always included at the end of the statement.



Observe the demonstration.

Creating and defining a flow frame

A frame is an object that reserves an area on a page and defines what can be placed in that area. In HP Exstream, frames are used to hold a place for dynamic objects, such as messages, and flowing objects, such as text or table overflow from other pages.

Frame categories

There are two basic kinds of frames available in HP Exstream: whitespace and content. The table below explains the differences between the two types.

FRAME TYPE	DESCRIPTION	WHERE PLACED	CAN CONTAIN
Whitespace	Composed at end of processing to fill blank space on a page with advertising or other messages. Whitespace frames also handle overflow from other pages or frames.	Directly on a page	<ul style="list-style-type: none">• Text messages• Graphic messages• Overflow• Footnotes• Indexes• Table of contents
Content	Require the Campaign Management module. Composed at the same time as the document. The content placed within them must go on the page. Only campaign messages can be placed in these frames.	Text box or table cell	<ul style="list-style-type: none">• Text messages• Graphic messages

You can create the following frames in HP Exstream:

- ♦ Messages
- ♦ Content flow area
- ♦ Table of contents and index
- ♦ Footnotes
- ♦ Placeholder

To enable content to flow to other pages, the page receiving content must contain a flow frame. A flow frame is a type of whitespace frame. They are used most often on flow pages or in creating multiple columns on a single page.

Flow frames are used to hold:

- ♦ Overflow from other pages or frames
- ♦ Messages that qualify for a whitespace frame, but do not fit at run-time
- ♦ Extra rows from tables
- ♦ Sections and paragraphs

Note:

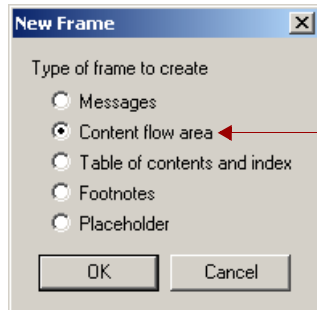
Unlike content frames, flow frames do not resize.

Creating and defining a flow frame

To add a flow frame to a page in Designer, you can either:

- ◆ Click  from the Drawing Objects toolbar.
- ◆ Click **Insert > Drawing Object > Frame** from the Menu bar.

New Frame dialog box

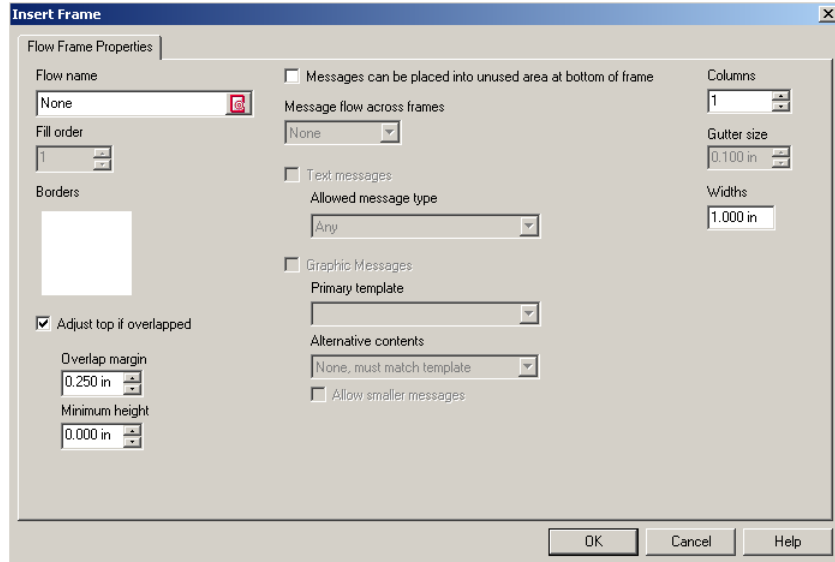


Select the **Content flow area** radio button to create a flow area.



After you select **Content flow area** as the frame type, you cannot change its type. You must delete the frame and create a new frame of the desired type.

Insert Frame dialog box



Select the desired properties and click **OK** to insert the flow frame onto the page.



Observe the demonstration.

Defining flow properties

You can set objects to split and flow in HP Exstream by using the **Dynamic Size and Placement** tab to set these properties. This enables the object to break and flow into a flow frame.

To set a text box or table to split and flow, right-click the object and select **<Object> Properties** from the shortcut menu. Click the **Dynamic Size and Placement** tab and select the **Can split and flow** check box to enable split and flow options.

Dynamic Size and Placement tab

The screenshot shows the **Dynamic Size and Placement** tab of a properties dialog box. The **Reference name** is "New Subscriber Letter Body". The **Can split and flow** checkbox is checked. The **Flow to any unnamed frame** dropdown is set to "None (does not move)". The **Autosize width** checkbox is unchecked, and **Autosize height** is checked. The **Grow** dropdown is set to "Down". The **Page flow limit** is set to "11.000 in". The **Minimum flow size** is set to "0.000 in". The **Minimum height** is set to "0.000 in".

Annotations with red arrows point to the following settings:

- Content flows to another page.** points to the **Can split and flow** checkbox.
- The text box or table resizes to fit content.** points to the **Autosize height** checkbox.
- Direction for the table cell or text box to grow** points to the **Grow** dropdown menu.
- The page's bottom margin** points to the **Page flow limit** input field.
- The minimum amount of flow for the table or text box** points to the **Minimum flow size** input field.
- The minimum height for the table or text box** points to the **Minimum height** input field.

You can also specify the point at which the text box or table must stop and flow to the specified flow page by entering a value in the **Page flow limit** box. This ensures that your page flows correctly.

Designer options

You can change Designer properties, including design height and page orientation, by using the **Properties** tab on the **Designer Options** dialog box. To access it, click anywhere on the Status bar in Designer.

Designer Options dialog box

Designer Options

Properties | **Designer** | Grid Control | Spelling

Type: 8.5 x 11.0 Resolution: 300

Description: New Subscriber Letter Page

Width: 8.500 in Height: 11.000 in Orientation: Rotate 0 Design height: 11.250 in

☐ Duplex
☐ Include in change-control calculation

OK Cancel Help



Observe the demonstration.

Learning check: Configuring flow in HP Exstream

Here are your requirements. Prior to using HP Exstream, discuss how to complete them.

REQUIREMENTS	IN HP EXSTREAM
Create a document that generates new pages as needed.	



- To complete the following exercises:
- Refer to the *Design Example* in the *101 Lab Guide*, if necessary.
 - Make sure you are working in the **Module 2** folder.
 - Use each task's corresponding step-by-step instructions if you need help.



Create and define a flow page. This is a three-part exercise.

TASK	SPECIFICS
Create a flow page.	<ul style="list-style-type: none">• Open the New Page dialog box.
Define a flow page.	<ul style="list-style-type: none">• Name it Letter Flow Page.• Use the Letterhead page template.• Select Copy this page from the Destination of overflow from this page drop-down list.
Specify a flow page in the document.	<ul style="list-style-type: none">• Specify the Letter Flow Page as a flow page at the document level of the <i>New Subscriber Document</i>.• Open the Letter Flow Page in Designer.

Part 1: Create a flow page

1. Expand the **Exstream > Class Exercises > Module 2** heading.
2. Right-click the **Pages** heading and select **New Page** from the shortcut menu.

Part 2: Define a flow page

1. Enter **Letter Flow Page** in the **Name** box.
2. Click **Next**.
3. Select **Letterhead** as the **Page Template**.
4. Click **OK**.
5. Click **Finish** to close the **New Page** dialog box.


Part 3: Specify a flow page in the document

6. Click the **Flow** tab.
7. Select **Copy this page** from the **Destination of overflow from this page** drop-down list.
8. Save the page.
9. Close the Property Panel.
10. Open the **Letter Flow Page** in Designer.



Create and define a flow frame.

TASK	SPECIFICS
Create and define a flow frame.	<ul style="list-style-type: none"> • Insert a flow frame on the Letter Flow Page. • Adjust the frame to the following dimensions (inches): <ul style="list-style-type: none"> — Horizontal position: 2.25 in — Vertical position: 0.75 in — Width: 5.75 in — Height: 9.75 in

1. Click the **Frame**  button on the Drawing Objects toolbar.
2. Select the **Content flow area** radio button.
3. Click **OK** to close the **New Frame** dialog box.
4. Click **OK** to accept the default frame properties.
5. Right-click the frame and select **Frame Properties** from the shortcut menu.
6. Click the **Placement** tab.
7. Adjust the frame to the following dimensions (inches):
 - **Horizontal position:** 2.25 in
 - **Vertical position:** 0.75 in
 - **Width:** 5.75 in
 - **Height:** 9.75 in
8. Click **OK** to close the **Frame Properties** dialog box.
9. Save and close your page.





Create and define flow properties. This is a five-part exercise.

TASK	SPECIFICS
Set the page to flow.	<ul style="list-style-type: none"> Set the New Subscriber Page to flow to the Letter Flow Page. Open the New Subscriber Page in Designer.
Set the text box to flow.	<ul style="list-style-type: none"> Set the New Subscriber Letter Body text box to split and flow.
Set the text box to autosize height.	<ul style="list-style-type: none"> Set the New Subscriber Letter Body text box to autosize height.
Add content to the text box.	<ul style="list-style-type: none"> Add the OfficeHours.txt file to the New Subscriber Page. Use the <i>Design Example</i> in the <i>Lab Guide</i> for help.
Package for the Exstream Viewer and view the output.	<ul style="list-style-type: none"> Prepare and package the application. Run the engine. View the output in the Exstream Viewer.

Note:

A message is displayed about minimum flow size. This can be ignored.

Part 1: Set the page to flow

- Expand the **Exstream > Class Exercises > Module 2 > Pages** heading.
- Drag the **New Subscriber Page** to the Property Panel.
- Click the **Flow** tab.
- Select **Flow to specified page** from the **Destination of overflow from this page** drop-down list.
- Click the **Page Overflow**  button in the **Page** box.
- Click the **Folder**  button.
- Navigate to the **Exstream > Class Exercises > Module 2** folder.
- Click **OK**.
- Select **Letter Flow Page** and click **OK**.
- Save the page.
- Close the Property Panel.
- Drag the **New Subscriber Page** to the Edit Panel.

Part 2: Set the text box to flow and autosize

- Right-click the **New Subscriber Letter Body** text box and select **Text Properties** from the shortcut menu.

2. Click the **Dynamic Size and Placement** tab.
3. Select the **Can split and flow** check box.
4. Select the **Autosize height** check box.
5. Set the **Page flow limit** to **9.5 in.**
6. Click **OK**.
7. Save your page.

Note:

A warning message appears regarding the minimum flow size. This can be ignored.

Part 3: Add content to the text box

1. Click inside the **New Subscriber Letter Body** text box.
2. Position the cursor one line below the last paragraph and press ENTER once.
3. Right-click and select **Insert > Import Text File**.
4. Browse to the **C:\101 Introduction to HP Exstream\Text files** directory.
5. Select the **OfficeHours.txt** file.
6. Click **Open** to import the text.
7. Verify your changes in Designer.
8. Save and close your page.

Part 4: Specify a flow page in the document

1. In the Library, drag the **Letter Flow Page** and drop it beneath the **New Subscriber Page** in the **New Subscriber Document**.
2. Drag the **New Subscriber Document** to the Edit Panel.
3. Double-click **Letter Flow Page** in the third column to open the **Document Page Properties** dialog box.
4. Select **Flow Page** from the **Position of page in document** drop-down list.
5. Click **OK** to close the dialog box.
6. Save the document.
7. Close the Edit Panel.



Package for the Exstream Viewer and view the output.

1. Right-click the **New Subscriber Application** and select **Package Application** from the shortcut menu.
2. Click **OK** to package and run the application.
3. Click **Yes** to view the engine message file.
4. Browse through the messages.
5. Close the engine message file.
6. Browse through the output in the Exstream Viewer.



Answer the following questions.

1. Does the output meet the design requirements?
2. Does the output break in the middle of a paragraph? How would you break the text in a different location?

Module 3: Creating statements and invoices

Using Reference files

Reference files enable you to store often-changing or supplemental data not normally stored in Customer driver files. If these files contain multiple types of data, such as various types of transactions, they may have record type indicators to separate the information.

This lesson discusses how to create and define Reference files and how to map them when they use record type indicators.

Objectives

After you complete this lesson, you should be able to do the following:

- ♦ Create and define a Reference file.
- ♦ Map a Reference file.

Terms

Important terms used in this lesson include:

- ♦ **Key variable**—One or more variables in the Customer driver file that notify the engine to read the Reference file.
- ♦ **Record type indicator**—An indicator that identifies separate records of information within a customer. For example, if you have a customer with multiple account types, each account can be specified with a different record type indicator. The engine reads all lines with the same record type indicator in the same way.
- ♦ **Reference files**—Optional data files used by the engine to access additional customer data not included in the Customer driver file.

Additional information

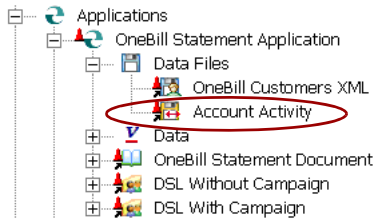
For more information on this topic, refer to the *Data Files* guide.

Creating and defining a Reference file

The engine uses Reference files to access customer information that is not included in the Customer driver file. These optional data files are “keyed” so you can retrieve a supplemental set of customer data based on one or more variables included in the Customer driver file.

Reference files are particularly useful when you have a large list of information that varies based on a variable. They are also useful with information that changes frequently. Instead of constantly updating each customer’s information in the Customer driver file, you update it in one location for all customers who meet the criteria

Reference file in Design Manager

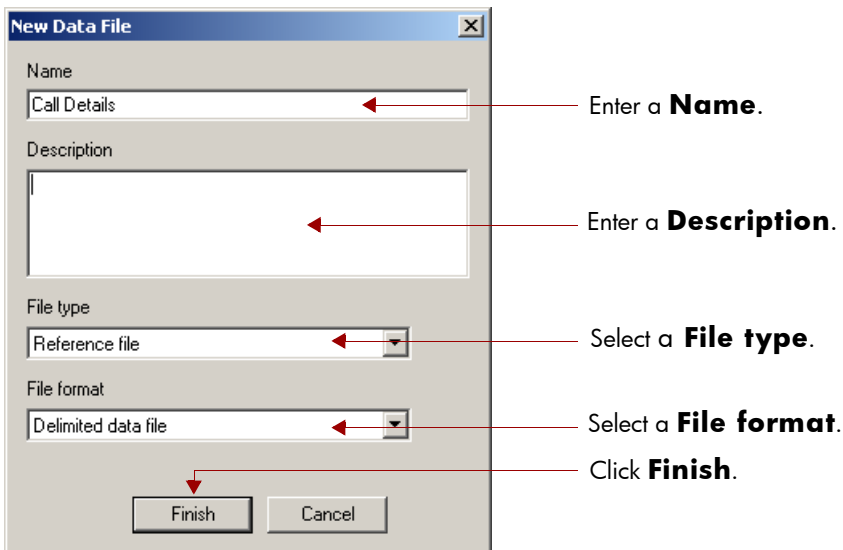


Creating a Reference data file

Creating a Reference data file object in the Library is similar to creating a Customer driver file.

Right-click the **Data Files** heading and select **New Data File** from the shortcut menu. The **New Data File** dialog box opens.

New data file



When you click **Finish**, the new data file opens in the Property Panel for you to define.

Defining a Reference data file

You can define a number of properties in the Property Panel.

On the **Basic** tab:

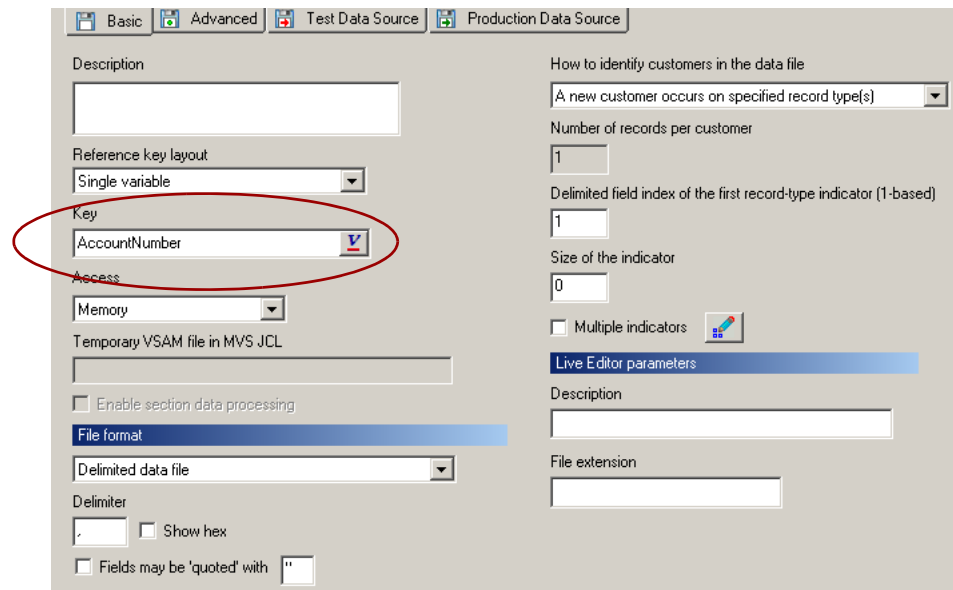
In the **Key** box, click the **Variable Palette**  button and select the key variable from the Variable Palette.

Note:

A key is one or more variables in the Driver file that notify the engine to read the Reference file.

If you use one variable as the key, leave the default of **Single variable** in the **Reference key layout** drop-down list.

Key field



The screenshot shows the 'Basic' tab of the Property Panel. The 'Key' field is circled in red, indicating it is the focus. The 'Key' field contains 'AccountNumber' and has a 'Variable Palette' button next to it. The 'Reference key layout' dropdown is set to 'Single variable'. The 'Access' dropdown is set to 'Memory'. The 'File format' dropdown is set to 'Delimited data file'. The 'Delimiter' is set to '.'. The 'Show hex' checkbox is unchecked. The 'Fields may be 'quoted' with' checkbox is unchecked. The 'Live Editor parameters' button is visible.

You also need to:

- ◆ Identify the paths to the external files for test and production runs in the **Test Data Source** tab and the **Production Data Source** tab.
- ◆ Map the file. Remember, you must map the key variable to the information that also appears in the Customer driver file.
- ◆ Determine the key variable.

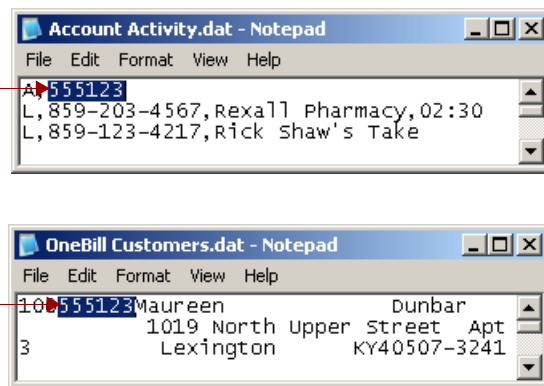
A Reference file must have a way to identify which of the customer driver records receives the incoming data. Therefore, you must specify the variable mapped in the Customer driver file that also appears in the Reference file with the same record information. This shared variable, called a key, ties the Reference file data to a specific customer record.

Key variables are one or more variables in the Customer driver file that notify the engine to read the Reference file.

In the example below, the variable you map to the account number in both files ties records in the Customer driver file with the call details from the Reference file.

Key variables

Map the same
variable to both



Note:

A Reference file can have multiple key variables, but that capability requires the use of an Auxiliary layout file, discussed in *Course 210: Advanced Data Concepts*.



Observe the demonstration.

Mapping Reference files

The entire file's mapping is based on the properties defined for the data file itself. If the mapping properties are changed, HP Exstream cannot reconcile the mapped variable to the new record layout.

Record type indicators

A record type indicator identifies separate records of information within a customer. For example, if you have a customer with multiple account types, each account can be specified with a different record type indicator. The engine reads all lines with the same record type indicator in the same way.

HP Exstream uses record type indicators to separate logical groups of information within a customer. A record type indicator identifies the start of a section (or subsection) in the flow of data.

Records can have multiple indicator locations. Each section can contain any number of records and any number of sub-sections with their own record type indicators.

Note:

You typically use numbers as record type indicators, but you can also use letters, spaces, nulls, and most non-printing characters can also be used.

Configuring record type indicator locations

If your data file uses record type indicators, you specify these options on the Property Panel.

Basic tab for data files in the Property Panel

How to identify customers in the data file

A new customer occurs on specified record type(s)

Number of records per customer

1

Delimited field index of the first record-type indicator (1-based)

1

Size of the indicator

0

☐ Multiple indicators

Select **A new customer occurs on specified record type(s)**.

Specify the indicator's location in the data file.

Specify the indicator's size.

Viewing record type indicators

HP Exstream automatically looks for record type indicators in a data file using the options you have set in the Property Panel. If your data file uses record type indicators, they appear in red when you view the data file in the Edit Panel.

The following example shows how you can use multiple record type indicators to indicate separate sections within the same customer set.

Data file with record type indicators

Customer section	→	A,555123
Local sub-section	→	L,859-203-4567,Rexall Pharmacy,02:30
		L,859-123-4217,Rick Shaw's Take Out,03:10
		L,859-235-1657,Stuvesant Bank,02:22
Long distance sub-section	→	D,303-654-3921,Rocky Mountain Vacations,03:40
		D,231-296-6902,The Hermitage,03:40
Cell sub-section	→	C,859-577-2312,Balrog Games,12:30

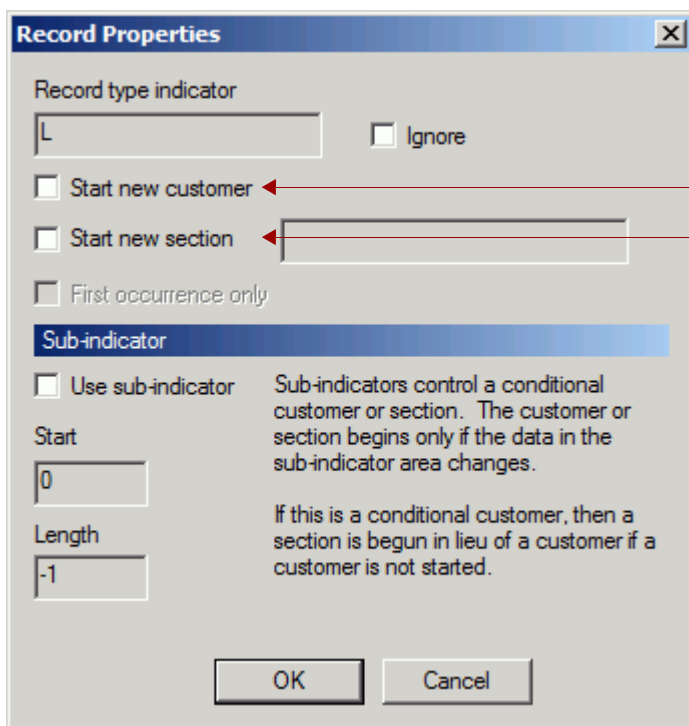
Defining record type indicators

After you have set all desired record type indicators, you need to define each indicator's data. You can define a record type indicator as the start of a new customer set or section within a customer set.

To define the start of a new customer set or section, drag the data file into the Edit Panel and highlight the record type indicator that starts a new customer. Then either:

- Click  from the Data Mapping toolbar.
- Right-click and select **Record > Record Properties** from the shortcut menu.

Record Properties dialog box



The dialog box is titled "Record Properties". It contains the following fields and options:

- Record type indicator:** A text box containing the letter "L". To its right is an ☐ labeled "Ignore".
- ☐ **Start new customer**
- ☐ **Start new section**
- ☐ **First occurrence only**
- Sub-indicator:** A section header.
- ☐ **Use sub-indicator**. To its right is a text area with the text: "Sub-indicators control a conditional customer or section. The customer or section begins only if the data in the sub-indicator area changes."
- Start:** A text box containing the number "0".
- Length:** A text box containing the number "-1". To its right is a text area with the text: "If this is a conditional customer, then a section is begun in lieu of a customer if a customer is not started."
- At the bottom are **OK** and **Cancel** buttons.

Select the **Start new customer** check box to define the start of a new customer record.

Select the **Start new section** check box to define the start of a new section and enter the name of the new section.

The record type indicator's value is defined as the start of a new customer or section.



Observe the demonstration.

Learning check: Using Reference files

Here are your requirements. Prior to using HP Exstream, discuss how to complete them.

REQUIREMENTS	IN HP EXSTREAM
Create and define a file that can reference the customer's monthly account activity information.	



To complete the following exercises:

- Refer to the *Design Example* in the *101 Lab Guide*, if necessary.
- Make sure you are working in the **Module 3** folder.
- Use each task's corresponding step-by-step instructions if you need help.



Create and define a Reference file. This is a two-part exercise.

TASK	SPECIFICS
Create a Reference file.	<ul style="list-style-type: none"> • Create the Account Activity reference file in the Exstream > Class Exercises > Module 3 folder. • Make the File format delimited.
Define a Reference file.	<ul style="list-style-type: none"> • Set the Key as the 'AccountNumber' variable. • Use a comma for the Delimiter. • Specify that customers are identified with a specified record type. • Specify that the record indicator is in the first column. • Specify that the size of the indicator is 0. • Use the C:\101 Introduction to HP Exstream\Data Files\Account Activity.dat file for the Test Data Source. • Use Ref for the Production Data Source.



Note:

Do not map any variables to the record indicators (A, L, D, C) in the first position of the file.

Part 1: Create a Reference file

1. Expand the **Exstream > Class Exercises > Module 3** folder.
2. Right-click the **Data Files** heading and select **New Data File** from the shortcut menu.
3. Enter **Account Activity** in the **Name** box.
4. Enter an appropriate description in the **Description** box.
5. Select **Reference file** from the **File type** drop-down list.
6. Select **Delimited data file** from the **File format** drop-down list.
7. Click **Finish**.

Part 2: Define a Reference file

1. Click the **Basic** tab in the Property Panel.
2. Click the **Variable Palette**  button in the **Key** box.
3. Double-click the 'AccountNumber' variable.
4. Enter a comma (,) in the **Delimiter** box.
5. Select **A new customer occurs on specified record type(s)** from the **How to identify customers in the data file** drop-down list.
6. Enter 1 in the **Delimited field index of the first record-type indicator (1-based)** box.
7. Enter 0 in the **Size of the indicator** box.
8. Click the **Test Data Source** tab
9. Select **File** from the **Type** drop-down list.
10. Click the **File Selector**  button next to the **File to use for data mapping** box.
11. Browse to the **C:\101 Introduction to HP Exstream\Data Files\Account Activity.dat** file.
12. Click **Open** to accept the data file.
13. Click the **Production Data Source** tab.
14. Select **File** from the **Type** drop-down list.
15. Enter **Ref** in the **File to use in production** box.
16. Save the data file.



Map and test a Reference file. This is a three-part exercise.

TASK	SPECIFICS
Start a new customer.	<ul style="list-style-type: none"> With the data file in the Edit Panel, highlight the first record and have it start a new customer.
Map a Reference file.	<ul style="list-style-type: none"> Map the file using the table below.
Verify and test the mapping.	<ul style="list-style-type: none"> View layouts. Test mapping.

Note:

Do not map any variables to the record indicators (A, L, D, C) that appear in the first position of the file.


Part 1: Start a new customer

1. Expand the **Exstream > Class Exercises > Module 3 > Data Files** heading.
2. Drag the **Account Activity** data file into the Edit Panel.
3. Highlight the record-type indicator in the first record.
4. Right-click and select **Record > Record Properties** from the shortcut menu.
5. Select the **Start new customer** check box.
6. Click **OK** to close the **Record Properties** dialog box.

Part 2: Map the variables

VARIABLES TO MAP

VARIABLE NAME	RECORD	START
'AccountNumber'	A	2
'Local_CallNumber'	L	2
'Local_CallLocation'	L	3
'Local_CallLength'	L	4
'LD_CallNumber'	D	2
'LD_CallLocation'	D	3
'LD_CallLength'	D	4
'Cell_CallNumber'	C	2
'Cell_CallLocation'	C	3
'Cell_CallLength'	C	4

1. Double-click to highlight the second field in the first row.
2. If the **Variable Palette** is not displayed, click the **Variable Palette**  button on the Standard toolbar.
3. Double-click the 'AccountNumber' variable.
4. Click **OK** to accept the defaults.
5. Save your data file.
6. Map the remaining record-types with information from the *Variables To Map* table.

Part 3: Verify and test the mapping

1. View the **Account Activity** layouts.
2. Test the mapping.
3. Save and close the Edit Panel.

Creating simple tables

Simple tables are the most basic kinds of tables available in HP Exstream. They let you create static tabular layouts. They are most often used when the same table format and same type of data is needed for each customer.

These tables can be formatted to meet your company standards. You can also customize the output format of variable information. This lets you to create the output you want without altering your original data.

This lesson discusses how to create and format simple tables and how to format variable output.

Objectives

After you complete this lesson, you should be able to do the following:

- ♦ Create and define a simple table.
- ♦ Format a simple table.
- ♦ Add special formatting to a variable.

Terms

Important terms used in this lesson include:

- ♦ **Table**— A way of storing and presenting information using columns and rows to organize the information
- ♦ **Table Type**—An option used to create a specific type of table and that controls the level of functionality by restricting the options to only what is necessary for that table

Additional information

For more information on this topic, refer to the following guides:

- ♦ *Design Objects* guide
- ♦ *Table Processing* guide
- ♦ *Variables* guide

Creating and defining simple tables

Simple tables are the most basic table offered in HP Exstream. Simple tables are used for static, fixed-size tables that contain no automation.

Creating simple tables

To create a simple table in Designer, you can either:


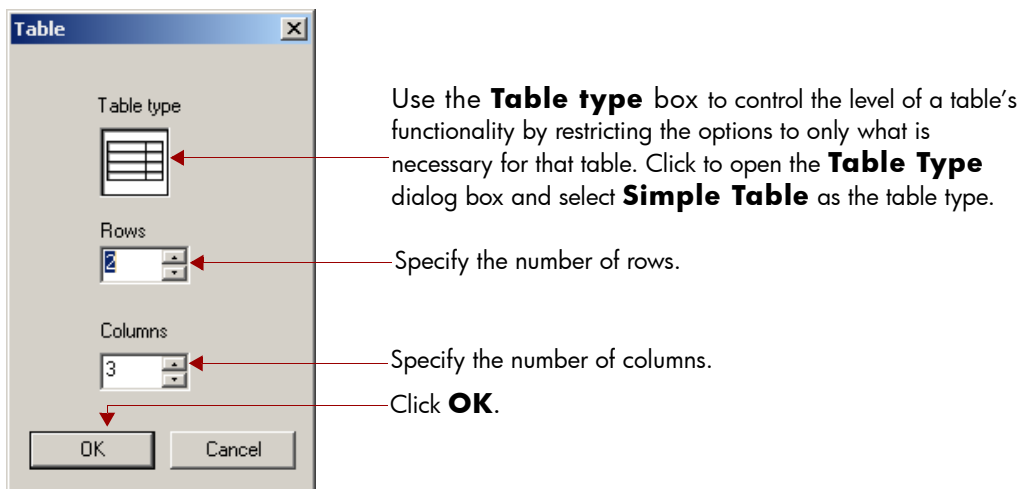
- ♦ Click the **Table**  button from the Drawing Objects toolbar.
- ♦ From the Menu bar, click **Insert > Drawing Object > Table**.

Table dialog box



Defining simple tables

You specify table properties from the Table Properties dialog box.

To access the **Table Properties** dialog box, you can:


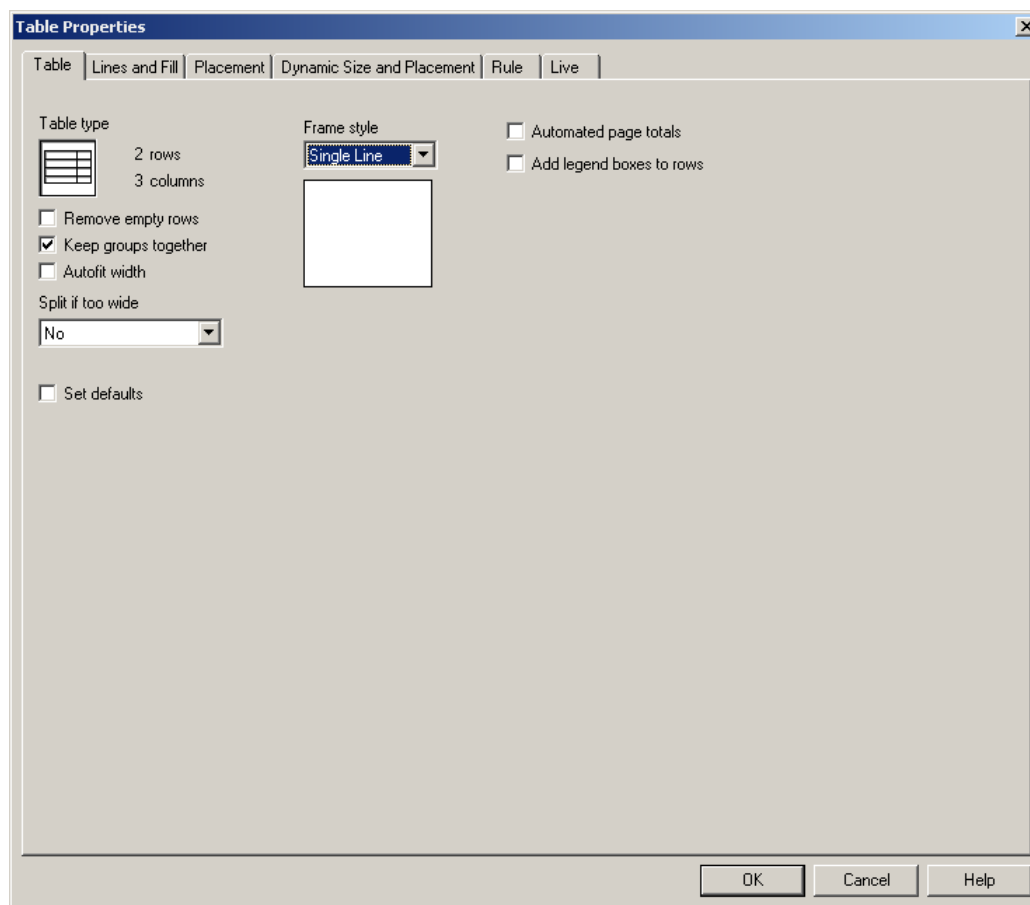
- ♦ Right-click the table and select **Table Properties** from the shortcut menu.
- ♦ Click the **Properties**  button above the table.
- ♦ Select **Table > Table Properties** from the Menu bar.

Table Properties dialog box



Observe the demonstration.

Formatting simple tables



You have several options for formatting your table. You can format the table as a whole, or you can format individual parts of the table such as rows or cells. You can also manually change the number of rows and columns in a table as well as delete content from multiple table cells.

Processing time improves when you place formatting on the largest part of the table possible. For example, it is better to format an entire row than to format each cell in that row.

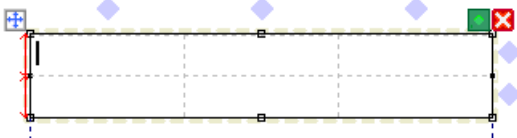
Accessing formatting and properties

You have several ways to access formatting and property features for your table elements.

Diamonds

Above each column and to the right of each row, you can click  (gray diamond) to access formatting and property options. When you click , the row or column becomes highlighted, and a shortcut menu opens.

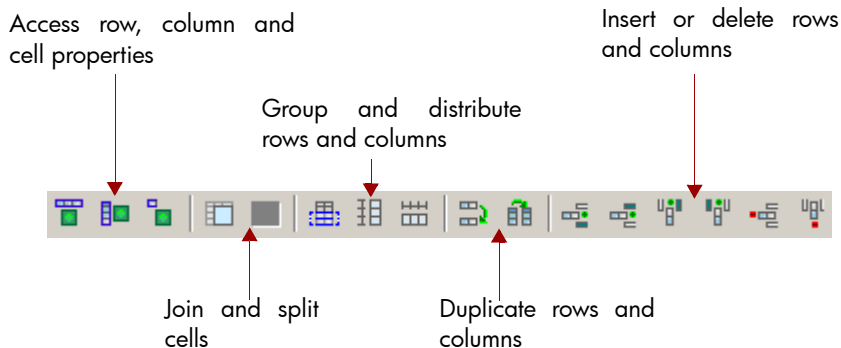
Diamond shortcuts on a Table



Tables toolbar


The Tables toolbar makes table formatting easy. The toolbar is located by default at the bottom of the Designer window. The toolbar is active when you are working with a table in Designer. The toolbar is inactive when a table is not selected in Designer.

Tables toolbar

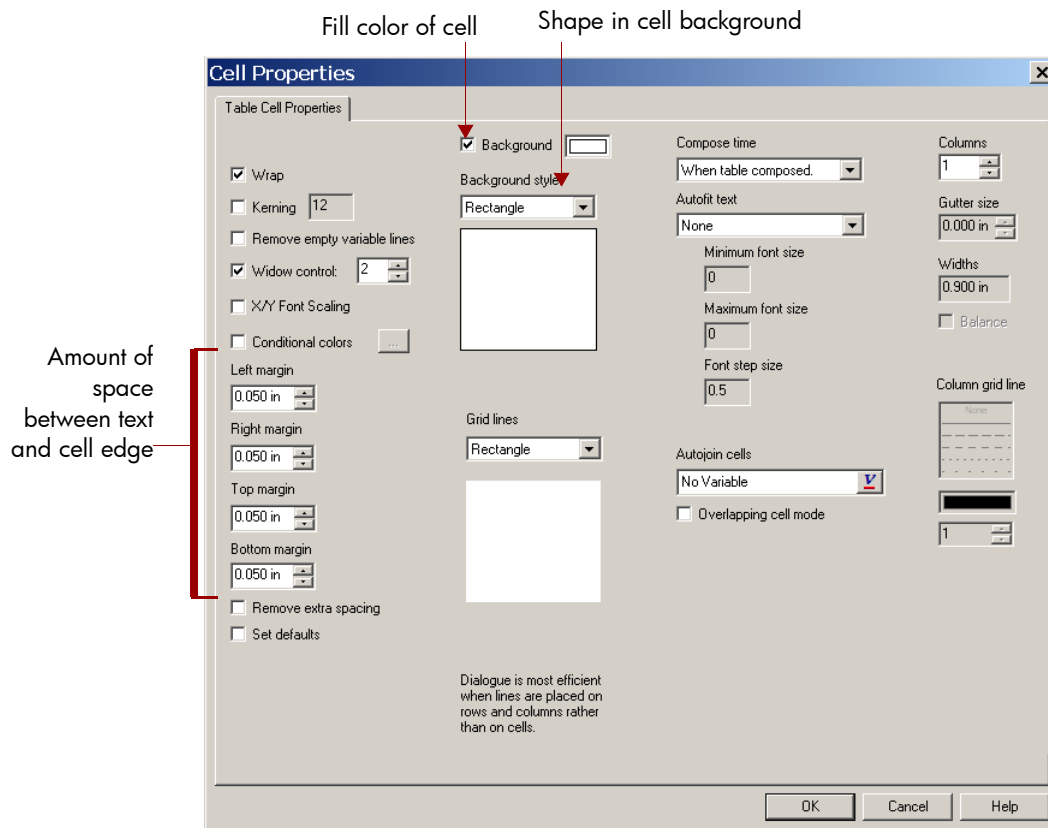


Cell formatting

Cell formatting options are available in the **Cell Properties** dialog box. To open the **Cell Properties** dialog box, you can:

- ◆ Right-click highlighted cells and select **Cell properties** from the shortcut menu.
- ◆ Highlight the cells you want to format and click  on the Tables toolbar.
- ◆ Select **Table > Cell Properties** from the Menu bar.

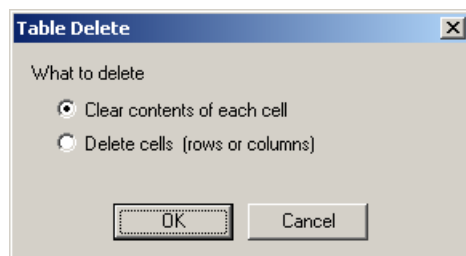
Cell Properties



Clearing cell content

To clear content from cells, highlight the table cells you want to clear and press DELETE. The **Table Delete** dialog box opens. Select whether you want to delete the contents of the cells or the cells themselves.

Table Delete dialog box



Joining and splitting cells

To join adjoining cells in an existing table, highlight the cells to be joined.

- ♦ Right-click the cells and select **Join cells** from the shortcut menu.

To split cells in an existing table, select the joined cells to be split.

- ♦ Right-click the joined cells and select **Split cells** from the shortcut menu.

Cell text alignment

When you enter text in a text box or cell, a Paragraph format ruler displays if you have selected to view the Ruler toolbar. Use the Paragraph Format Ruler to set tabs for the text.

Paragraph format ruler








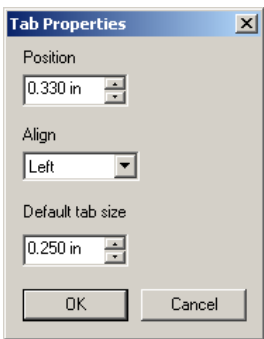
HP Exstream offers several tab types. Click the  to select the desired type of tab. The button changes to a symbol for your tab type. Your choices are:

TABLE TYPE SYMBOLS AND EXPLANATIONS

BUTTON SYMBOL	TAB STYLE	EXAMPLE
	Left-align tab	-123.45 678.9-
	Right-align tab	-123.45 678.9-
	Center-align tab	-123.45 678.9-
	Decimal-align tab	-123.45 678.9-


To access the **Tab Properties** dialog box, click once in the ruler, then right-click directly on a tab marker. opens. It lets you fine-tune your tab alignment.

Tab Properties dialog box



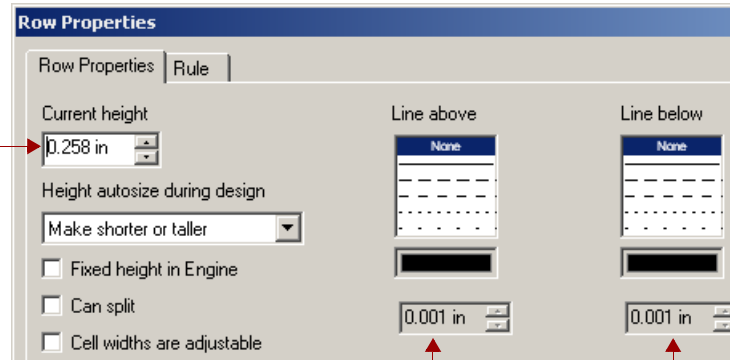
Formatting rows

To format your rows individually:

- ◆ Right-click the table and select **Row properties** from the shortcut menu.
- ◆ Click  on the Tables toolbar.
- ◆ Select **Table > Row Properties** from the Menu bar.
- ◆ Click on the diamond to the right of each row.

Row Properties tab

The current height of the row. You can change the height by entering a new value in the box or by manually resizing the row in the design.



Change the style, weight, and color of the lines appearing above and below the row.

Inserting, deleting, and duplicating rows


To insert rows into an existing table, highlight the row used for the insertion point. Right-click the row and select either **Insert row before** or **Insert row after** from the shortcut menu. The new row appears before or after the insertion point.

To delete rows, highlight the rows for deletion. Right-click and select **Delete row** from the shortcut menu. The selected rows are deleted.

If you are creating several rows that use the same formatting, you can create one and then copy it. Right-click the highlighted row and select **Copy row** from the shortcut menu. The row is copied and placed below the selected row.

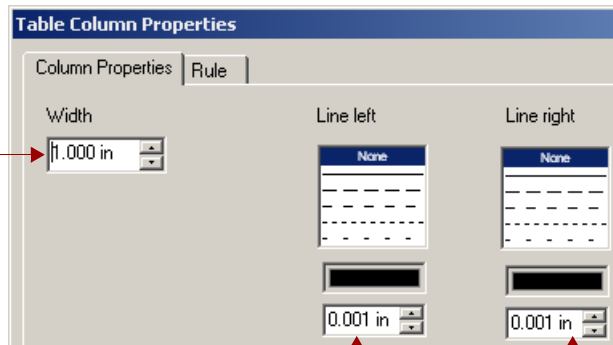
Formatting columns

To format your columns individually:

- ◆ Right-click the table and select **Column properties** from the shortcut menu.
- ◆ Click  on the Tables toolbar.
- ◆ Select **Table > Column Properties** from the Menu bar.
- ◆ Click the diamond at the top of each column.

Column Properties tab

The current width of the column. You can change the width by entering a new value in the box or by manually resizing the column in the design.



Change the style, weight, and color of the lines appearing to the left and right of the column.

Inserting, deleting, and duplicating columns

To insert columns into an existing table, highlight the column used for the insertion point. Right-click the column and select **Insert column before** or **Insert column after** from the shortcut menu. The new column appears to the right of the insertion point.

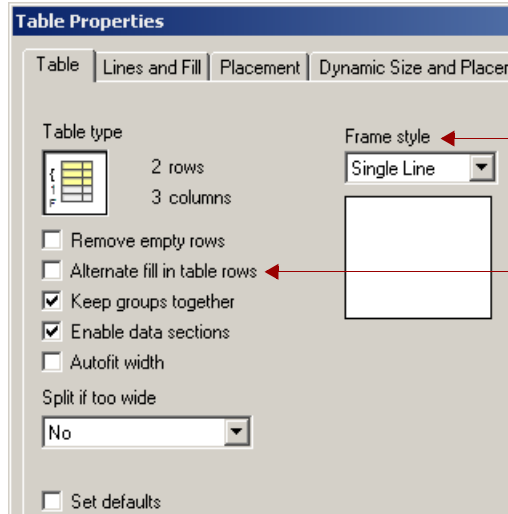
To delete columns, highlight the columns for deletion. Right-click and select **Delete column** from the shortcut menu. The selected columns are deleted from the table.

If you are creating several columns that use the same formatting, you can create one and then copy it. Then highlight the column, then right-click the column to select **Copy column** from the shortcut menu. The column is copied and placed to the right or to the left of the selected column depending on your selection.

Formatting tables

The **Table** tab controls basic table formatting as a whole. Formatting for cells, rows, and columns affect only a specific part of the table.

Table tab

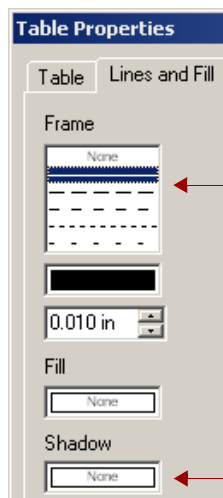


Select the outline style for the table. There are three choices on this drop-down list: **Single Line**, **Double Line**, or **Rounded**.

Alternates the fill color.

To format the frame around your table, go to the **Lines and Fill** tab. Here you select the line style, thickness, and color. You can also place a shadow behind your table.

Lines and Fill tab



Frame line style, color, and thickness

Format the shadow appearing behind the table

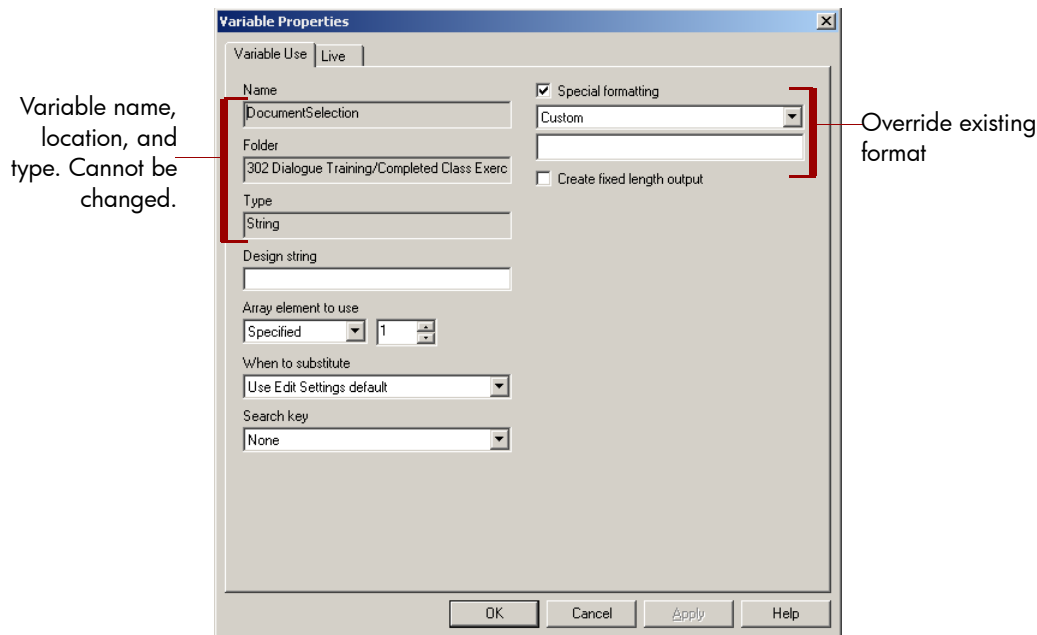


Observe the demonstration.

Adding special formatting to a variable

If your data is not formatted the way you want it to appear in the output, you can change the output format. Variable formatting in Designer can be controlled by overriding the default formatting established in Design Manager when the variable was created. You do this on the **Variable Use** tab of the **Variable Properties** dialog box. To access the dialog box, right-click a variable and select **Variable properties** from the shortcut menu.

Variable Properties box



Special formatting

To apply formatting that differs from the default, select the **Special formatting** check box. Select the formatting from the drop-down list below **Special formatting**. The items in the drop-down list change according to the type of variable selected.

The default formatting refers to the selected variable's formatting specified on the **Output Format** tab in the variable's properties in Design Manager.

SPECIAL FORMATTING OPTIONS FOR VARIABLES

VARIABLE TYPE	SPECIAL FORMATTING OPTIONS
String	<ul style="list-style-type: none"> • Keep Blanks • Trim Blanks • Lower, Keep Blanks
Integer	<ul style="list-style-type: none"> • General Number
Currency	<ul style="list-style-type: none"> • General Number • Locale Currency • Locale General Number
Boolean	<ul style="list-style-type: none"> • T/F • Y/N • 1/0 • True/False • Yes/No
Floating	<ul style="list-style-type: none"> • General Number • Zoned • Binary Float
Date	<ul style="list-style-type: none"> • mm/dd/yy (04/06/01) • mm-dd-yyyy (04-06-2001) • April 06, 2001 • d.m.yy (6.4.01)

Learning check: Creating simple tables

Here are your requirements. Prior to using HP Exstream, discuss how to complete them.

REQUIREMENTS	IN HP EXSTREAM
Create a table that lists the current account summary on the OneBill Statement page.	
Ensure the due date is formatted Month Day, Year (Example: December 21, 2010).	



To complete the following exercises:

- Refer to the *Design Example* in the *101 Lab Guide*, if necessary.
- Make sure you are working in the **Module 3** folder.
- Use each task's corresponding step-by-step instructions if you need help.

Both the Account Summary table and the Service Summary table (see the *Design Example* in the *Lab Guide*) have a cell that displays total charges. The test data does not have a field with the total charges value. You will create the 'TotalCharges' variable, and a formula to calculate the value.



Create and define a simple table. This is a seven-part exercise.

TASK	SPECIFICS
Create the 'TotalCharges' variable.	<ul style="list-style-type: none"> • Create the currency variable, 'TotalCharges,' in the Exstream folder. • Enter \$999.99 for the Design sample.
Create a formula variable.	<ul style="list-style-type: none"> • Create a formula variable, with a Type of String, named '00_TotalCharges_Formula.' • Set the variable to reset Before each customer. • Enter TotalCharges = Sum(ServicePrice) as the formula. • The formula should have a Compute time of Customer.
Create an application.	<ul style="list-style-type: none"> • Create the OneBill Statement Application in the Exstream > Class Exercises > Module 3 folder. • Add the OneBill Customers Customer driver file and the Account Activity Reference file. • Make sure the files are in the correct order. • Add the '00_TotalCharges_Formula' variable.
Create a page and a document.	<ul style="list-style-type: none"> • Create the OneBill Statement Page using the Statement Summary page template. • Create the OneBill Statement Document. • Add the page to the document and the document to the application. • Open the page in Designer.

TASK	SPECIFICS
Use a Library component.	<ul style="list-style-type: none"> • Add the address block to the page. • Position and format the table based on the <i>Design Example</i> in the <i>Lab Guide</i>.
Create a table.	<ul style="list-style-type: none"> • Add a simple table to the page with 8 rows and 2 columns.
Define table properties.	<ul style="list-style-type: none"> • Position and size the table according to the <i>Design Example</i> found in your <i>Lab Guide</i>. • Put a 0.01 inch frame around the table.

Part 1: Create the 'TotalCharges' variable

1. Right-click the **Exstream > Data Dictionary** heading and select **New Variable** from the shortcut menu.
2. Enter **TotalCharges** in the **Name** box.
3. Add an appropriate **Description**.
4. Select **Currency** from the **Type** drop-down list.
5. Enter **\$999.99** in the **Design sample** box.
6. Click **Finish** to close the dialog box.
7. Close the Property Panel to accept the default variable properties.

Part 2: Create a formula variable

1. Create a variable named '00_TotalCharges_Formula' and add a **Description**.
2. Select **String** from the **Type** drop-down list.
3. Click **Finish**.
4. Click the **Basic** tab.
5. Select **Formula** from the **Source** drop-down list.
6. Select **Before each customer** from the **Reset time** drop-down list.
7. Click the **Values** tab.
8. Click in the **Formula** box.
9. Import the 'TotalCharges' and 'ServicePrice' variables using the **Variable Palette**.
10. Enter the remainder of the code so that the end result appears as follows:
`TotalCharges = Sum(ServicePrice)`
11. Select **Customer** from the **Compute time** drop-down list.
12. Save your variable.
13. Close the Property Panel.


Part 3: Create an application

1. Expand the **Exstream > Class Exercises > Module 3** folder.
2. Create an application named **OneBill Statement Application** and add an appropriate **Description**.
3. Drag the **OneBill Customers** Customer driver file and the **Account Activity** Reference file to the **OneBill Statement Application**.
4. Verify that the Customer driver file appears before the Reference file in the **OneBill Statement Application** data files list.
5. Drag the '00_TotalCharges_Formula' variable from the **Data Dictionary** and drop it on the **OneBill Statement Application**.


Part 4: Create a page and a document

1. In the **Exstream > Class Exercises > Module 3** folder, create a page named **OneBill Statement Page**, and give it a **Description**.
2. Select **Statement Summary** as the **Page Template**.
3. Create a document named **OneBill Statement Document** and give it a **Description**.
4. Drag the **OneBill Statement Page** and drop it on the **OneBill Statement Document**.
5. Drag the **OneBill Statement Document** and drop it on the **OneBill Statement Application**.
6. Drag the **OneBill Statement Page** to the Edit Panel.

Part 5: Use a Library component

1. Click the **Component**  button on the Drawing Objects toolbar.
2. Highlight **Customer Address Block** (*located in the Class Exercises folder*) in the **Select Component** box.
3. Click **OK** to import the component.
4. Right-click the **Customer Address Block** and select **Library component > Make Unnamed Copy** from the shortcut menu.
5. Format the fonts to match the *Design Example* in the *Lab Guide*.
6. Position the address block on the page according to the *Design Example* in the *Lab Guide*. Save your page.

Part 6: Create a table

1. Click an empty spot anywhere on the page to release any selected objects.
2. Click the **Table**  button on the Drawing Objects toolbar.
3. Enter 8 in the **Rows** box.
4. Enter 2 in the **Columns** box.
5. Click **OK**.

Part 7: Define the table properties

1. Right-click the table and select **Table Properties** from the shortcut menu.
2. Click the **Dynamic Size and Placement** tab.
3. Change the **Reference Name** to **Account Summary Table**.
4. Click the **Placement** tab.
5. Change the **Horizontal position**, **Vertical position**, and **Width** to match the *Design Example* in the *Lab Guide*.
6. Click **Lines and Fill** tab.
7. Enter **0.01** in the **Frame** box.
8. Click **OK** to close the dialog box.




Format a simple table. This is a four-part exercise.

FORMAT A SIMPLE TABLE

TASK	SPECIFICS
Format the table title.	<ul style="list-style-type: none"> • Join the cells in the first row and enter Account Summary. • Set the background for the row to Vivanet Blue. • Center the text, make it white, and apply the font specified in the <i>Design Example</i> in your <i>Lab Guide</i>.
Add detail row titles and variables.	<p>Add the following labels to the first column.</p> <ul style="list-style-type: none"> • Previous Balance • Payments Received • Beginning Balance • Total Charges • Taxes and Surcharges • Total Amount Due • Due Date <p>Add the following variables to the second column</p> <ul style="list-style-type: none"> • PreviousBalance • PaymentReceived • BeginningBalance • TotalCharges • TaxesSurcharges • TotalAmountDue • DueDate
Format the detail rows.	<ul style="list-style-type: none"> • Add a 0.01 inch solid line below rows 1 - 7.
Format the detail cells.	<ul style="list-style-type: none"> • Decimal align the currency variables at .875 in.

Part 1: Format the table title


1. Highlight the first row.
2. Right-click and select **Join cells** from the shortcut menu.
3. Click away from the table to remove the highlighting.
4. Click in the first row to enter edit mode.
5. Enter **Account Summary**.
6. Highlight the text and apply the font to match the *Design Example* in the *Lab Guide*.
7. Center the text horizontally.
8. Click the **Font Color**  button on the Formatting toolbar.
9. Select the white color well.
10. Click **OK**.
11. Right-click and select **Cell Properties** from the shortcut menu.
12. Select the **Background** check box.
13. Click inside the **Background** color well.
14. Select **Vivanet Colors** from the **Color model** drop-down list.
15. Select **Vivanet Blue** from the **Standard color palette**.
16. Click **OK** close the **Color** dialog box.
17. Click **OK** close the **Cell Properties** dialog box.
18. Save your page.

Part 2: Add detail row titles and variables

ROW LABELS AND CORRESPONDING VARIABLES

ROW	ROW LABEL	VARIABLE
2	Previous Balance	'PreviousBalance'
3	Payments Received	'PaymentReceived'
4	Beginning Balance	'BeginningBalance'
5	Total Charges	'TotalCharges'
6	Taxes and Surcharges	'TaxesSurcharges'
7	Total Amount Due	'TotalAmountDue'
8	Due Date	'DueDate'

Use the table to complete the following steps.


1. If the **Variable Palette** is not displayed, click the **Variable Palette**  button on the Standard toolbar.
2. Enter the text **Previous Balance** into the first column of the second row.
3. Click in the second column of the second row.
4. Double-click 'PreviousBalance' in the **Variable Palette**.

5. Save your page.
6. Repeat steps 2–5 to fill the rest of the table. Use the table and the *Design Example* in the *Lab Guide* for help.

Part 3: Format the detail rows

1. Highlight rows 1–7.
2. Right-click and select **Row Properties** from the shortcut menu.
3. Click the **Row Properties** tab.
4. For **Line below**, select the solid line and enter **0.01** in the **Line weight** box.
5. Click **OK**.

Part 4: Format the detail cells

1. Highlight all the cells in rows 2–8.
2. Change the font to match the *Design Example* in the *Lab Guide*.
3. Highlight all the currency variables in column 2.
4. Click the **Left Tab**  button on the ruler.
5. Click inside the ruler.
6. Right-click the tab icon.
7. Enter **.875 in** in the **Position** box.
8. Select **Decimal** from the **Align** drop-down list.
9. Click **OK**.
10. Tab all the variables into position.
11. Save your page.



Add special formatting to a variable. This is a two-part exercise.

TASK	SPECIFICS
Add special formatting	<ul style="list-style-type: none">Apply the April 6, 2001 Special formatting to the 'DueDate' variable.
Package for the Exstream Viewer and view the output	<ul style="list-style-type: none">Package and view the application.

Part 1: Add special formatting

1. Highlight the 'DueDate' variable in the second column of the eighth row.
2. Right-click and select **Variable properties** from the shortcut menu.
3. Select **April 6, 2001** from the **Special Formatting** drop-down list.
4. In the **Design string** box, enter `April 6, 2001`.
5. Click **OK** to close the dialog box.
6. Use the right align tab to align the right edge of the date with the right edge of the currency fields entered in the previous exercise.
7. Save and close your page.

Part 2: Package for the Exstream Viewer and view the output

1. Package the **OneBill Statement Application**.
2. View the output in the Exstream Viewer.



Answer the following questions.

1. Is each customer's Account Summary table correct?
2. Is the Total Charges formula returning a correct amount?

Creating charts

Charts let you create graphics that help your customers understand complicated data. HP Exstream lets you create several types of charts to help you meet your customer needs. These charts can be targeted for each customer and can be customized to meet your business standards.

This lesson discusses how to create a chart that includes a legend.

Objectives

After you complete this lesson, you should be able to do the following:

- ♦ Create and define a chart.
- ♦ Add a legend and labels to a chart.

Terms

Important terms used in this lesson include:

Chart—A visual display of information used to show relationships between different sets of numbers.

Label—A text description on a pie chart slice that explains the data it represents

Legend—A visual key to explain a chart or table

Additional information

For more information on this topic, refer to the *Charts* guide.

Modules

In addition to HP Exstream, we will discuss the Dynamic Charting module in this lesson.














Creating and defining charts

You can help your customers understand complicated data by using charts. HP Exstream generates charts using each customer's unique data.



Chart types

The Dynamic Charting module includes fifteen different chart types.

CHARTS


SYMBOL	NAME	DESCRIPTION
	Area chart	Illustrates changes in values over time in relation to a whole. Used to compare rises and falls in value.
	Bar chart	Uses bars to mark data amounts. Used when more than one category is being compared and to show relationships between groups.
	Calendar chart	Shows a graphical representation of calendar dates. These charts are driven by date variables. Used to highlight and explode specific dates from the chart for emphasis.
	Comparative bar chart	Uses one bar to show a total amount and a second bar to show how that amount was reached. Used to compare complex combinations of customer data.
	Comparative line chart	Displays two sets of data as a line chart and optionally shades the area between the two lines. Used to show the difference between the current value and the potential net value.
	Horizontal bar chart	Uses horizontal bars to mark data amounts. Used when the labels for the data are long and as a direct comparison of categorical data.
	Horizontal stacked bar chart	Uses horizontal bars to mark data amounts. Instead of separate bars, the bars are stacked 'beside' the previous ones. Used to show each component as a fraction or percentage of the whole.
	Label chart	Plots two groups of numbers as a single series of X/Y coordinates using a symbol or a label when both axes show data. Good for data that is in uneven intervals or clusters.
	Line chart	Illustrates changes in values over time. Used when grouped discrete or grouped continuous data is present.
	Pie chart	Illustrates the relationship of a part to a whole. Each data value read is used to create a part (or slice) of the chart. Used to show the relative proportion of numbers that add up to a total.
	Progress bar chart	Compares current status to a goal. These charts can be useful to show a customer how their financial planning goals are being reached.
	Radar chart	Plots an array of information in a line around a related center point. Used when comparing several different factors all related to one item. This chart shows areas of relative strength, weakness, and overall performance.
	Range bar chart	Illustrates ranges of data. This chart is frequently used in financial documents. Used when data does not have to be anchored to the X-axis.

CHARTS

SYMBOL	NAME	DESCRIPTION
	Scattergram chart	Plots two groups of numbers as a single series of X/Y coordinates using a symbol or a label when both axes show data while comparing changes in value over time. Used to display how two groups of information are related and can be compared.
	Stacked bar chart	Uses bars to mark data amounts. Bars are stacked on top of the previous ones. Used to illustrate data so that different categories can be compared.

Creating charts

To create a chart, you can either:

- ◆ Click the **Chart**  button from the Drawing Objects toolbar.
- ◆ From the Menu bar, click **Insert > Drawing Object > Chart**.

The cursor changes to enable you to insert a chart on the page.

Chart insert cursor



Place the cursor where you want the chart to appear and click your left mouse button. The sample chart appears on the page for you to define. By default, a pie chart appears.

Defining chart properties

To define a chart, right-click the chart and select **Chart Properties** from the shortcut menu. The **Chart Properties** dialog box opens.

Chart Properties dialog box

The **Chart Properties** dialog box is shown with the following sections and controls:

- Chart type:** A dropdown menu to select the chart type. (Annotation: Click to change the chart type.)
- Title:** A text field for the chart title. (Annotation: Select how the text for the title is entered.)
- Frame:** A dropdown menu to select the border around the chart. (Annotation: Control the border that appears around the entire chart.)
- Legend:** A dropdown menu to select the legend position. (Annotation: Select if all values used to create the pie are read from a single variable.)
- Values:** A list of variables used to define the chart and the color associated with each. (Annotation: Specify the variables used to define chart and the color associated with each.)
- Color:** A color palette to select the color for each slice. (Annotation: Select to pull the slice away from the chart for emphasis.)
- Legend labels:** A list of labels for the legend. (Annotation: Create labels in the legend that correspond with the data.)

Other controls include checkboxes for 3D, Shadow, Lines, All values are stored in one array, and Conditional colors. The bottom of the dialog has OK, Cancel, and Help buttons.




Observe the demonstration.

Adding a legend and labels to a chart

If you select an option other than **None** from the **Legend** drop-down list, you can use the **Legend/Label Properties** dialog box to format legends and labels. Charts use legends and labels to explain and identify data areas.

Accessing legend and label properties

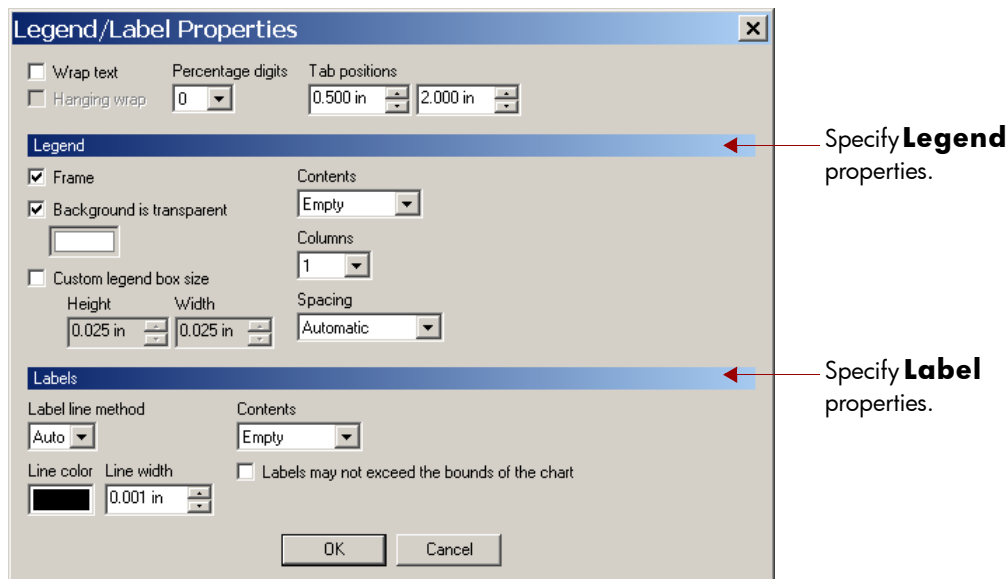
To access the **Legend/Label Properties** dialog box, you can either:

- ◆ Click  on the **Chart** tab in the **Chart Properties** dialog box.
- ◆ Right-click on the chart and select **Chart legend** from the shortcut menu.
- ◆ Double-click the legend in the chart.

Formatting legends and labels

The **Legend/Label Properties** dialog box is where you change most of the formatting options for the legend and labels on charts.

Legend/Label Properties dialog box



Observe the demonstration.

Learning check: Creating charts

Here are your requirements. Prior to using HP Exstream, discuss how to complete them.

REQUIREMENTS	IN HP EXSTREAM
Create a chart showing the composition of this month's services.	
Create a legend showing the names of these services.	



To complete the following exercises:


- Refer to the *Design Example* in the *101 Lab Guide*, if necessary.
- Make sure you are working in the **Module 3** folder.
- Use each task's corresponding step-by-step instructions if you need help.



Create and define a chart. This is a three-part exercise.


TASK	SPECIFICS
Create a chart.	On the OneBill Statement Page , create a pie chart as specified in the <i>Design Example</i> in the <i>Lab Guide</i> .
Define chart properties.	<ul style="list-style-type: none"> • Put a line above and below the chart. • Enter Monthly Services by Fee for the title. • Select 'ServicePrice' as the single array variable that holds all the values needed to create the chart.
Change the chart color.	Use <i>Vivinet</i> colors for the first four color wells.

Part 1: Create a chart


1. Expand the **Exstream > Class Exercises > Module 3 > Pages** heading.
2. Drag the **OneBill Statement Page** into the Edit Panel.
3. Click the **Chart**  button on the Drawing Objects toolbar.
4. Click on a blank spot on the page to insert the chart.
5. Right-click on the chart and select **Chart Properties** from the shortcut menu.
6. Click the **Dynamic Size and Placement** tab.
7. Enter **Monthly Services** in the **Reference name** box.
8. Clear the **Autosize height** check box.
9. Click the **Placement** tab.
10. Adjust the chart's **Horizontal position** and **Vertical position** to match the *Design Example* in the *Lab Guide*.

- Adjust the chart's **Width** and **Height** to match the *Design Example* in the *Lab Guide*.

Part 2: Define the chart properties

- Click the **Chart** tab.
- From the **Title** drop-down list, select **Text**.
- To the right of the **Title** drop-down list, enter **Monthly Services by Fee**.
- Select **Top and bottom** from the **Frame** drop-down list.
- Select the **All values are stored in one array** check box.
- Click the **Variable Palette**  button next to the **Values** box.
- Select **Currency** from the **Filter variables by variable type** drop-down list.
- Click the 'ServicePrice (n)' variable.
- Click **OK**.

Part 3: Change the chart color


- Next to the 'ServicePrice' variable, click the top color well.
- Select **Vivanet Colors** from the **Color model** drop-down list.
- Select **Vivanet Blue** from the **Standard color palette**.
- Click **OK**.
- Continue using the **Vivanet Colors** to set the next three colors for the chart.
- Adjacent to the color wells, select the first checkbox under the double-arrows >>.
- Click the **Advanced Pie Chart Options**  button under **Chart Type**.
- Increase the **Explode Level** to 40% and click **OK**.
- Click **OK** to close the **Chart Properties** dialog box.
- Save your page.



Create a chart legend. This is a three-part exercise.

TASK	SPECIFICS
Create a chart legend.	<ul style="list-style-type: none"> Create a legend on the right side of the chart. Select 'Service' as the array variable that holds each chart label.
Finish the chart layout.	<ul style="list-style-type: none"> Right justify the table title and center the legend beneath it. Make sure the legend does not have a frame around it.
Package for the Exstream Viewer and view the output.	<ul style="list-style-type: none"> Package and view the output.

Part 1: Create a chart legend

1. Right-click the **Monthly Services** chart and select **Chart Properties** from the shortcut menu.
2. Click the **Chart** tab.
3. Select **Right** from the **Legend** drop-down list.
4. From the **Legend labels** drop-down list, select **All labels are in one array**.
5. Click the **Variable Palette**  button under **Legend labels**.
6. Select the **Filter variables by variable type** button and select **All Types** from the list.
7. Double-click the 'Service(n)' variable.
8. Click **OK** to close **Chart Properties**.

Part 2: Finish the chart layout

1. Select the chart title and right justify it.
2. Select the chart legend and center it beneath the title.
3. Right-click the legend box and select **Chart legend** from the shortcut menu.
4. Clear the **Frame** check box.
5. Click **OK**.
6. Save and close your page.

Part 3: Package for the Exstream Viewer and view the output

1. Package the **OneBill Statement Application**.
2. View the output in the Exstream Viewer.

Using document messages

Messages can be referenced in two locations: campaigns and documents. Document messages let you put specialized, targeted information in specific areas of a page after business content, such as statement information, has been placed.

This lesson provides an overview of how to create and define messages. It also discusses how to add a message frame to a page.

Objectives

After you complete this lesson, you should be able to do the following:

- ♦ Create and design a document message.
- ♦ Add a message frame to a page.

Terms

Important terms used in this lesson include:

- ♦ **Document message**—A message reference residing under a document in the Library. Document messages take precedence over campaign messages when the engine composes an application.
- ♦ **Graphic message**—A communication that is created using design objects. It is placed on a page in areas held in reserve by frames. A message can contain objects other than images.
- ♦ **Message**—A text or graphic communication that is placed by the engine in areas on a page held in reserve by frames during production. A message is stored under **Messages** in the Library.
- ♦ **Text message**—An object that lets you communicate with your customers using text and embedded graphics. The engine places an object, based on rules, into a frame on a page.
- ♦ **Whitespace frame**—A frame composed at the end of processing and that is used to fill blank space on a page with advertising or other messages. It is also used to handle overflow from other pages or frames.

Additional information

For more information on this topic, refer to the following guides:

- ♦ *Messages guide*
- ♦ *Campaigns and Tracking guide*

Creating and defining document messages

A document message is a message reference residing under a document in the Library. It takes precedence over campaign messages when the engine composes an application. Messages are text or graphic communications that are included by the engine at run-time in areas held in reserve by frames on a page. Messages serve different purposes depending on where they are placed: documents or campaigns. Messages placed in documents are placed after typical business content.

You store all messages under the **Messages** heading in the Library.

Identifying message types

In HP Exstream, there are four types of messages:

MESSAGE	EXPLANATION
Text message	A communication that contains text. It is placed on a page in areas held in reserve by frames.
Graphic message	A communication that contains text, graphics, or both. It is placed on a page in areas held in reserve by frames.
Insert message	A pre-printed message stored in an inserter bin that can be added to customer documents during output. Available with the High-Volume Delivery module.
Graphic or Insert message	Messages that HP Exstream creates and adds to the output if an inserter bin runs out of pre-printed insert messages. Available with the High-Volume Delivery module.


This lesson discusses only the first two types of messages (text and graphic). The last two types (**Insert** and **Graphic or Insert**) pertain only to external inserts in inserter bins during production and are discussed in the *211: High-Volume Delivery* course.

Creating and defining text messages

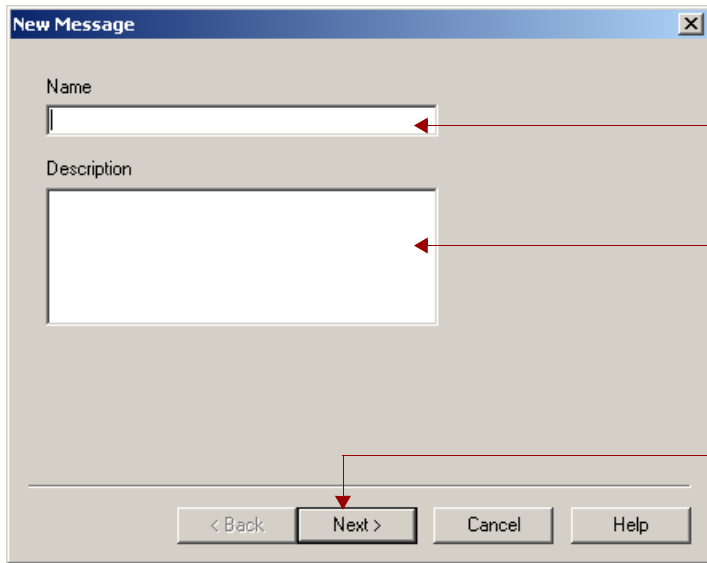
A text message is an object that lets you communicate with your customers using text and embedded graphics. Text messages are one or more words, sentences, or paragraphs of text and embedded images. They can contain variable data for substitution of text. At run-time, the engine inserts these messages into available text message frames on pages.

Creating text messages

To create a text message in Design Manager, you can either:

- ♦ Highlight the **Messages** heading and click .
- ♦ Right-click the **Messages** heading and select **New Message** from the shortcut menu.

New Message dialog box



The dialog box titled "New Message" contains two input fields: "Name" and "Description". The "Name" field is a single-line text box, and the "Description" field is a multi-line text box. At the bottom, there are four buttons: "< Back", "Next >", "Cancel", and "Help".

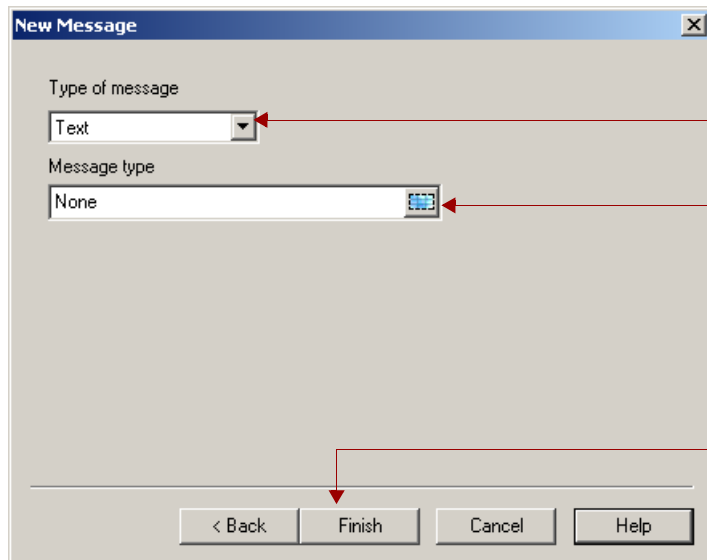
Enter a **Name**.

Enter a **Description**.

Click **Next**.

When you click the **Next** button, the **New Message** dialog box changes.

New Message dialog box



The dialog box titled "New Message" contains two dropdown menus: "Type of message" and "Message type". The "Type of message" dropdown is set to "Text". The "Message type" dropdown is set to "None". At the bottom, there are four buttons: "< Back", "Finish", "Cancel", and "Help".

Select **Text** as the **Type of message**.

Optionally, select a **Message type**.

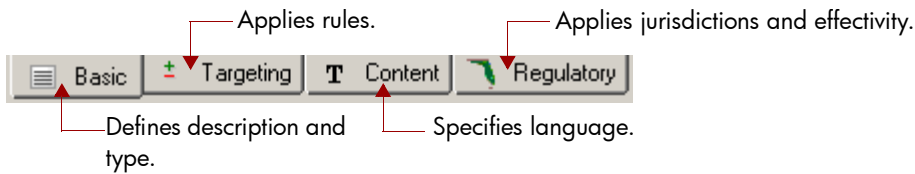
Click **Finish**.

The new text message is added to the Library and displayed in the Property Panel for you to define.

Defining text messages

When a text message is in the Property Panel, the following tabs are available.

Text message tabs in the Property Panel

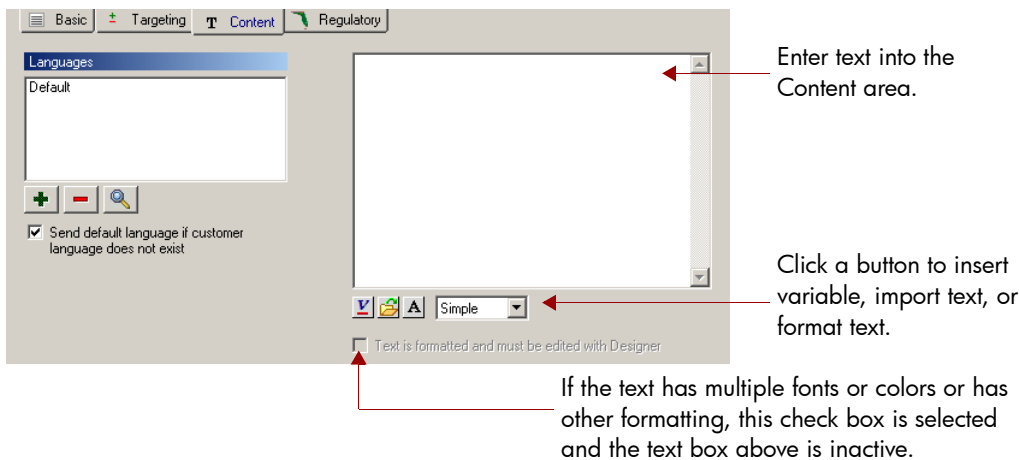


Note:

The **Regulatory** tab appears when jurisdictions are enabled in the **System Settings**. Requires the Compliance Support module.

When defining your text message properties, you can also add content in the **Content** tab.

Content tab



Creating and defining graphic messages


A graphic message is a communication that is created using design objects. They are placed on a page in areas held in reserve by frames. Messages can contain objects other than images. A graphic message is a type of message that can design objects such as text boxes, tables, and images. They are placed in frames on pages or directly on pages, just like text messages.

When you create a graphic message, you must specify a message template. There should be one template for each unique type and size of message being used. Examples include:

- ♦ 2x2 advertisement
- ♦ 2x4 advertisement
- ♦ 4x4 coupon

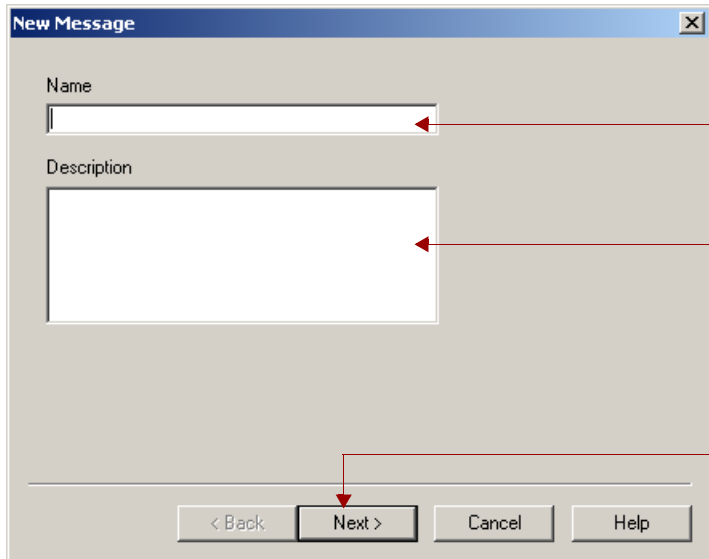
Creating graphic messages

To create a graphic message in Design Manager, you can either:

- ♦ Highlight the **Messages** heading and click the .
- ♦ Right-click the **Messages** heading and select **New Message** from the shortcut menu.

You can also create text messages in Designer by clicking  or selecting **File > New** from the Menu bar.

New Message dialog box



The dialog box titled "New Message" has a "Name" text field and a "Description" text area. At the bottom are buttons: "< Back", "Next >", "Cancel", and "Help".

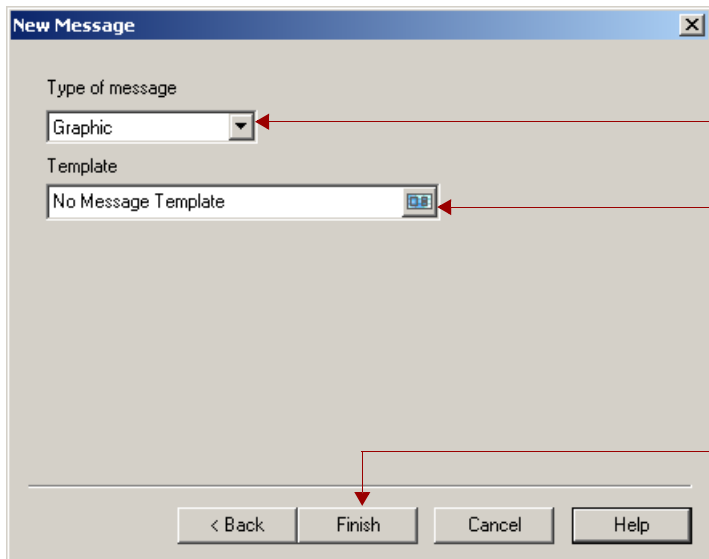
Enter a **Name**.

Enter a **Description**.

Click **Next**.

When you click the **Next** button, the **New Message** dialog box changes.

New Message dialog box



The dialog box titled "New Message" has a "Type of message" dropdown menu set to "Graphic" and a "Template" text field set to "No Message Template". At the bottom are buttons: "< Back", "Finish", "Cancel", and "Help".

Select **Graphic** as the **Type of message**.

Select a message **Template**.

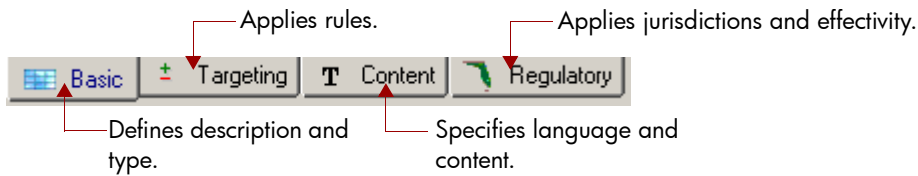
Click **Finish**.

The new graphic message is added to the Library and displayed in the Property Panel for you to define.

Defining graphic messages

When a graphic message is in the Property Panel, the following tabs are available.

Graphic message tabs in the Property Panel



Note:

The **Regulatory** tab appears only when enabled in the System Settings.



Observe the demonstration.

Adding a message frame to a page

During run-time, the engine dynamically places messages in whitespace frames after the business content. This lets you place targeted messages based on the other information the customer has received.

Whitespace frames are composed at the end of processing and are used to fill blank space on a page with advertising or other messages. They are also used to handle overflow from other pages or frames.

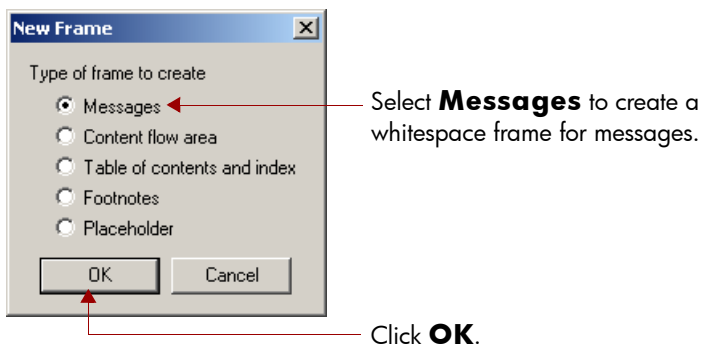
Creating message frames

When you create Whitespace frames to hold messages, select the **Messages** radio button on the **New Frame** dialog box. You can customize each frame to accept all qualifying messages or only those of a certain message type.

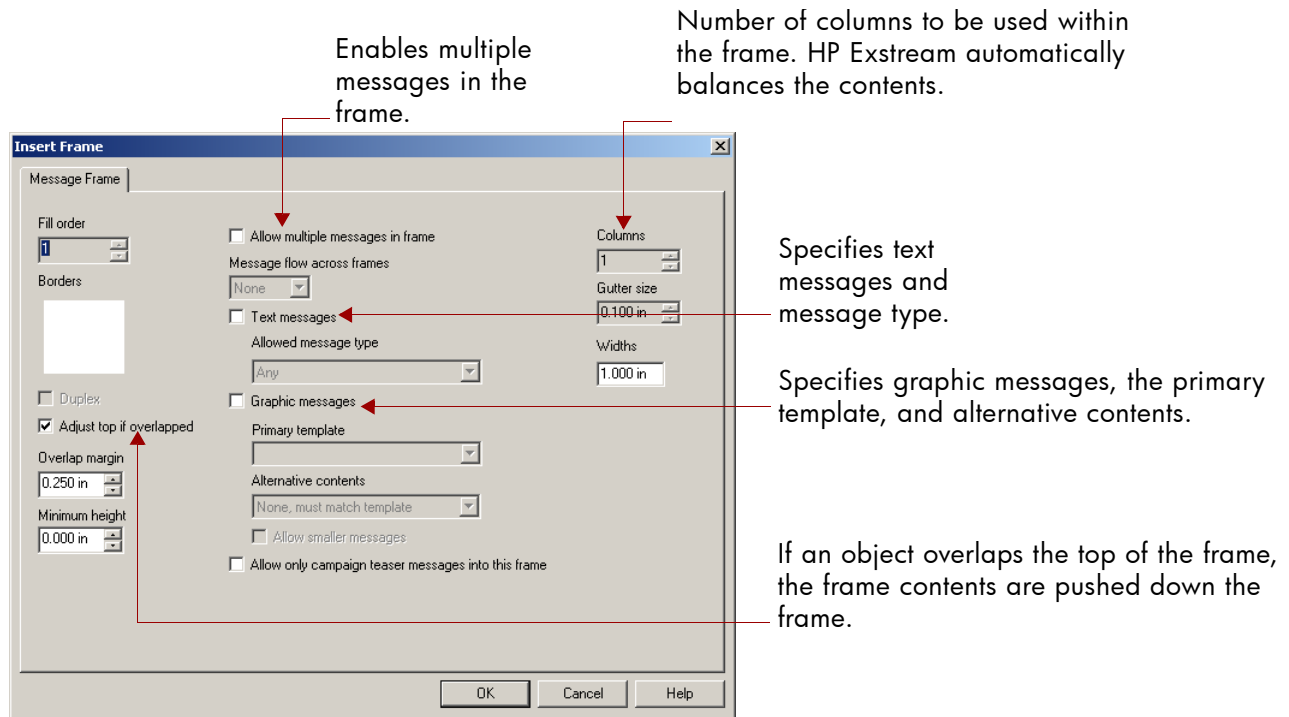
To insert a message frame onto a page either:

- Click the **Frame**  button from the Drawing Objects toolbar.
- Click **Insert > Drawing Object > Frame** from the Menu bar.

New Frame dialog box



Insert Frame dialog box



Note:

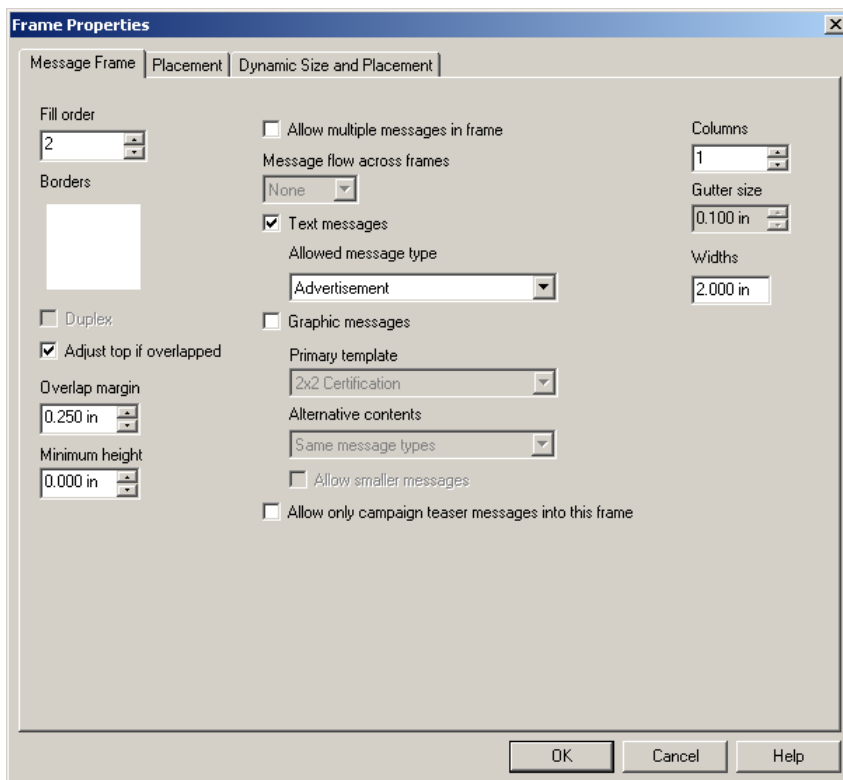
You must select at least one type of message (text or graphic) to include in the frame.

The message frame appears on the page according to the options you have set.

Defining message frames

You define most of a frame's properties when you create it. The **Message Frame** tab of the **Frame Properties dialog** box is like the **Insert Frame** dialog box with a few exceptions.

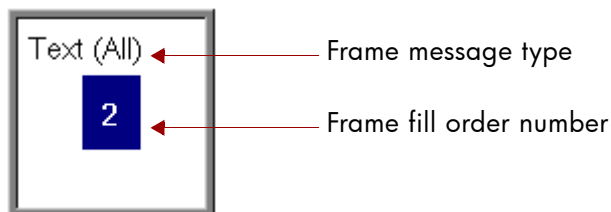
Frame Properties dialog box



The major difference is the ability to change the frame's fill order. Use the **Fill order** box to change the order in which frames are filled. The fill order is initially determined by the order in which the frames are created, but you can use this box to change the order. If you change the order, the fill order of other frames are also updated.

Click **OK** to finish.

Content frame in Designer



Observe the demonstration.

Learning check: Using document messages

Here are your requirements. Prior to using HP Exstream, discuss how to complete them.

REQUIREMENTS

IN HP EXSTREAM

Create a payment coupon that can be reused in future bills.



To complete the following exercises:

- Refer to the *Design Example* in the *101 Lab Guide*, if necessary.
- Make sure you are working in the **Module 3** folder.
- Use each task's corresponding step-by-step instructions if you need help.



Create and design a document message. This is a seven-part exercise.


TASK	SPECIFICS
Create a graphic message.	<ul style="list-style-type: none"> • Create a graphic message that uses the Remittance template in the Exstream > Class Exercises > Module 3 folder. • Name the message Remittance Coupon Message. • Add the message to the OneBill Statement Document and then open it in Designer.
Use a Library component.	<ul style="list-style-type: none"> • Add the Customer Address block to the message to match in the <i>Design Example</i> in the <i>Lab Guide</i>. • Format the fonts to match the <i>Design Example</i> in the <i>Lab Guide</i>.
Create a remittance table.	<ul style="list-style-type: none"> • Create a simple table with 6 rows and 2 columns.
Define remittance table properties.	<ul style="list-style-type: none"> • Name the table Remittance Coupon Table. • Position it to match the <i>Design Example</i> in the <i>Lab Guide</i>. • Make sure there is no frame around the table and match the Width to the <i>Design Example</i> in the <i>Lab Guide</i>.
Define cell heights and margins.	<ul style="list-style-type: none"> • Make the Current height of the first four rows 0.25 in. • Set the cell margins to 0.025 in.

TASK	SPECIFICS
Add cell content.	<p>Add the following text to the first column. Use the <i>Design Example</i> in the <i>Lab Guide</i> for formatting.</p> <ul style="list-style-type: none">• Account Number• Amount Due• Due Date• Amount Paid <p>Add the following variables to the second column. Use the <i>Design Example</i> in the <i>Lab Guide</i> for formatting.</p> <ul style="list-style-type: none">• 'AccountNumber'• 'TotalAmountDue'• 'DueDate'
Define row properties.	<ul style="list-style-type: none">• Add a solid line 0.01 in thick above the first row and below the fourth row.• Join the cells in the sixth row and add text to match the <i>Design Example</i> in the <i>Lab Guide</i>.

Part 1: Create a graphic message


1. Navigate to **Exstream > Class Exercises > Module 3**.
2. Create a message named **Remittance Coupon Message** and add an appropriate **Description**.
3. Click **Next**.
4. Select **Graphic** as **Type of message** and **Remittance** as **Template**.
5. Click **Finish**.
6. Close the Property Panel.
7. Drag the **Remittance Coupon Message** to the **OneBill Statement Document**.
8. Drag the **Remittance Coupon Message** to the Edit Panel.

Part 2: Use a Library component

1. Click the **Component**  button on the Drawing Objects toolbar.
2. Highlight **Customer Address Block** (located in the *Class Exercises* folder) in the **Select Components** box.
3. Click **OK** to import the component.
4. Right-click the **Customer Address Block** and select **Library component > Make Unnamed Copy** from the shortcut menu.
5. Right click and select **Text Properties** from the shortcut menu.
6. Click the **Dynamic Size and Placement** tab.
7. Change the **Reference** name to **Remittance Coupon Address Block**.
8. Position the text box on the message to match the *Design Example* in the *Lab Guide*.
9. Click **OK**.
10. Format the fonts to match the *Design Example* in the *Lab Guide*.
11. Save your message.

Part 3: Create a remittance table

The table you are developing serves two purposes. The top four rows display account and payment information. The bottom two rows display payment instructions.

1. Click an empty spot anywhere on the message to release any selected objects.
2. Click the **Table**  button on the Drawing Objects toolbar.
3. Enter **6** in the **Rows** box.
4. Enter **2** in the **Columns** box.
5. Click **OK**.

Part 4: Define remittance table properties

1. Right-click the table and select **Table Properties** from the shortcut menu.
2. Click the **Dynamic and Size and Placement** tab.
3. Change the **Reference name** to **Remittance Coupon Table**.
4. Click the **Placement** tab.
5. Change the **Horizontal position**, **Vertical position**, and **Width** to match the *Design Example* in the *Lab Guide*.
6. Click **Lines and Fill** tab.
7. Select **None** from the **Frame** list.
8. Click **OK** to close the dialog box.

Part 5: Define cell heights and margins

1. Highlight the first four rows of the table.
2. Right-click and select **Row properties** from the shortcut menu.
3. Click the **Row Properties** tab.
4. Enter **0.25 in** in the **Current height** box.
5. Click **OK**.
6. Right-click and select **Cell properties** from the shortcut menu.
7. Set all the margins to **0.025 in**.
8. Click **OK** to close the dialog box.

Part 6: Add cell contents

ROW	TEXT	VARIABLE NAME
1	Account Number	'AccountNumber'
2	Amount Due	'TotalAmountDue'
3	Due Date	'DueDate'
4	Amount Paid	

1. Add text and variables to the cells of the first four rows using the table.
2. Format the cells to match the *Design Example* in the *Lab Guide*.
3. Save your message.

Part 7: Define row properties


1. Highlight the first row in the table.
2. Right-click and select **Row Properties** from the shortcut menu.
3. Click the **Row Properties** tab.
4. For **Line above**, select the solid line style.
5. Set **Line weight** to **0.01 in**.
6. Click **OK**.
7. Highlight the fourth row, and follow steps 2–6 from above to set the **Line below**.
8. Add text and format the row to match the *Design Example* in the *Lab Guide*.
9. Highlight the sixth row.
10. Right-click and select **Join Cells** from the shortcut menu.
11. Save and close the message, leaving Designer open.




Add a message frame to a page. This is a four-part exercise.

TASK	SPECIFICS
Open a page in Designer.	Open the OneBill Statement Page .
Add the Remittance Coupon frame to the page.	Add a frame that can hold graphic messages with the Remittance Primary template in the position specified in the <i>Design Example</i> in the <i>Lab Guide</i> .
Add the Promotional frame to the page.	Add a frame that can hold Advertisement Text messages to match the <i>Design Example</i> in the <i>Lab Guide</i> .
Package for the Exstream Viewer and view the output.	Package and view your output.

Part 1: Open a page in Designer


1. With Designer open, click the **Open Design Element**  button on the Standard toolbar.
2. Select **OneBill Statement Page** from the **Exstream > Class Exercises > Module 3** folder.
3. Click **OK**.

Part 2: Add the remittance coupon frame to the page

1. Click the **Frame**  button on the Drawing Objects toolbar.
2. Select **Messages**.
3. Click **OK**.
4. Select the **Graphic messages** check box.
5. Select **Remittance** from the **Primary template** drop-down list.
6. Click **OK** to close the dialog box.
7. Right-click the frame and select **Frame Properties** from the shortcut menu.
8. Click the **Placement** tab.
9. Set the frame's **Horizontal position** and **Vertical position** to match the *Design Example* in the *Lab Guide*.
10. Click **OK**.
11. Save your page.

Part 3: Add the promotional frame to the page

This frame will be used for campaign messages.

1. Click the **Frame**  button on the Drawing Objects toolbar.
2. Select **Messages**.
3. Click **OK**.
4. Select the **Text messages** check box.
5. Select **Advertisement** from the **Allowed message type** drop-down list.
6. Click **OK** to close the dialog box.
7. Right-click the frame and select **Frame Properties** from the shortcut menu.
8. Click the **Placement** tab.
9. Change the frame's **Horizontal position**, **Vertical position**, **Width** and **Height** to match the *Design Example* in the *Lab Guide*.
10. Click **OK**.
11. Save and close your page.

Part 4: Package for the Exstream Viewer and view the output

1. Package the **OneBill Statement Application**.
2. View the output in the Exstream Viewer.

Defining campaigns and rules

If you have licensed the Campaign Management module, HP Exstream helps you reach specific customers through targeted communications called “campaigns.” Campaigns help you create highly targeted and specialized messages.

To target campaigns, you might need to use rules. A code panel in HP Exstream lets you import or directly enter logic.

This lesson discusses how to create and define campaigns as well as how to use rules to target those campaigns.

Objectives

After you complete this lesson, you should be able to do the following:

- ♦ Create and define a campaign.
- ♦ Create a rule to target communications.

Terms

Important terms used in this lesson include:

- ♦ **Campaign**—A container that holds message objects you send to qualifying customers. Customers qualify for campaigns based on targeting and prioritization rules. Campaigns are found under the **Campaigns** heading in HP Exstream.
- ♦ **Campaign messages**—Marketing messages placed according to the availability of space and according to additional optional properties such as a range of dates. Campaign messages can be placed in whitespace frames and are used often as filler.

Additional information

For more information on this topic, refer to the following guides:

- ♦ *Messages guide*
- ♦ *Formulas, Functions, and Rules guide*
- ♦ *Built-In Functions guide*
- ♦ *Campaigns and Tracking guide*

Modules

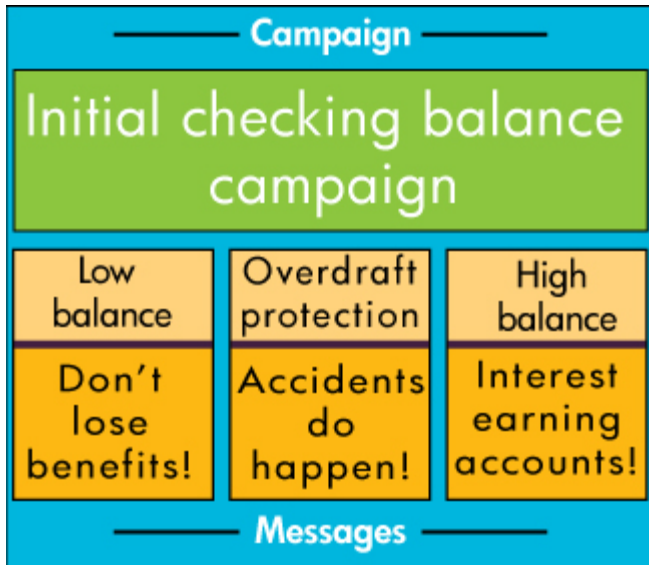
In addition to HP Exstream, we will discuss the Campaign Management module in this lesson.

Creating and defining campaigns

A campaign is a container that holds message objects you send to qualifying customers. Customers qualify for campaigns based on targeting and prioritization rules. Campaigns are found under the **Campaigns** heading in the Library. A campaign is a collection of one or more associated messages sent to customers, based on specific targeting and prioritization rules. Campaigns can include messages printed on the customer document or pre-printed messages that are added with an inserter at production time.

To use campaigns, you must have the Campaign Management module. It lets you create and target marketing information, consisting of dynamic messages or pre-printed material.

Campaign



The same campaign can be used in multiple applications, such as a statement and two newsletters. Or, it might be sent on a stand-alone basis in a direct marketing document. This enables the coordination of marketing programs across multiple applications.

Creating campaigns

To create a campaign, you can either:

- ♦ Highlight the **Campaigns** heading and click .
- ♦ Right-click the **Campaigns** heading and select **New Campaign** from the shortcut menu.

New Campaign dialog box

The **New Campaign** dialog box contains the following fields and controls:

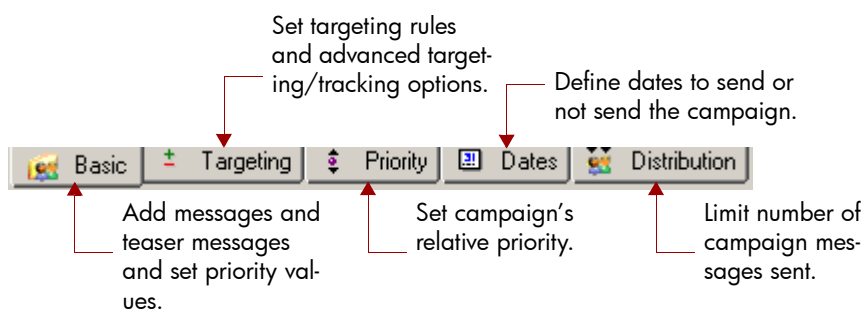
- Name:** A text input field. Annotation: Enter a **Name**.
- Description:** A text input field. Annotation: Enter a **Description**.
- Create first message:** A drop-down menu with the selected option "Yes, and start Designer now". Annotation: Select a **Create first message** option.
- Applications:** A list box containing:
 - New Subscriber Application
 - OneBill Statement Application
 - Service Update Application
 - Sweepstakes Flyer Application
 - Wireless Service Policy Application
 - Year End Statement Application
 Annotation: Select the **Applications** in which to place the campaign.
- Buttons:** "< Back", "Next >", "Cancel", and "Help". Annotation: Click **Next**.

Depending on the option you select from the **Create first message** drop-down list, you begin by designing campaign messages in Designer by defining the campaign properties in the Property Panel.

Defining campaigns

To define campaign properties, select the desired campaign and drag it to the Property Panel.

Campaign tabs in the Property Panel



Note:

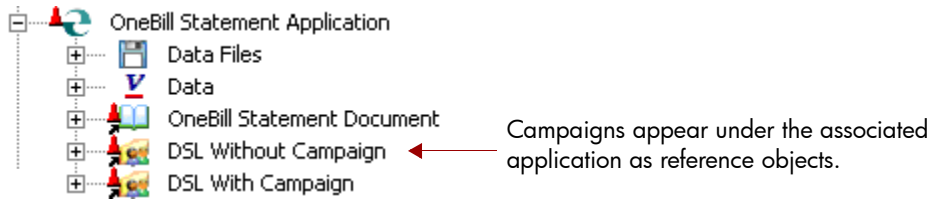
The **Distribution** tab is available if **Tracking periods** is activated on your system.

Campaigns and applications

You must add the campaign you have created to the application.

To add a campaign to an application, drag and drop the application into the campaign. A reference to the campaign appears under the application in the Library.

Sample application containing a campaign



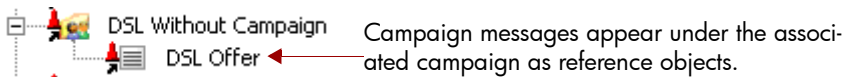
Campaign messages

Placing messages in a campaign gives you more flexibility when determining when you want messages to qualify for placement. Campaign messages are often used to fill whitespace on pages.

When creating a campaign, HP Exstream can automatically create a message of the same name and include it in the campaign if you select one of the **Yes** options from the **Create first message** drop-down list.

To associate a message with a campaign, drag and drop the message into the campaign. A reference to the message appears under the campaign in the Library.

Sample campaign containing messages




Observe the demonstration.

Creating rules to target communications

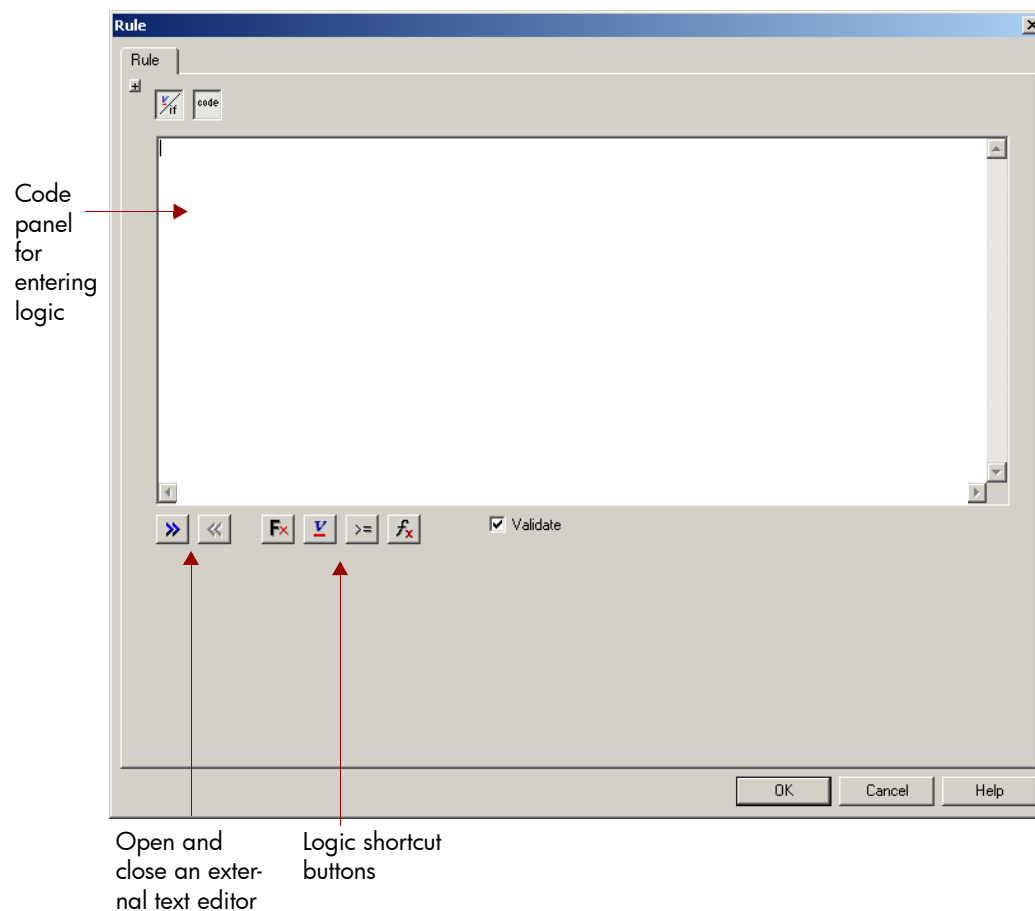
One common use for rules is targeting communications. Depending on your targeting needs, you may need to use advanced rules. Typically, advanced rules are created in the Code panel if your logic:

- ◆ Has more than 250 conditions
- ◆ Mixes “and” and “or” statements

Using one advanced rule rather than many simple rules ensures a shorter processing time.

To access the Code panel, click  in the upper left side of the **Rule** dialog box. The Code panel lets you use Visual Basic-style programming to create rules that are more complex than those you create in the **Rule** dialog box.

Rule dialog box

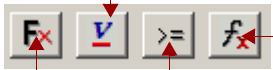


Rule creation guidelines

Rules use generally accepted programming practices modeled after Visual Basic. HP Exstream supports a significant subset of the Visual Basic conditions, functions, and syntax.

You can enter logic using a combination of typing and buttons. The Logic shortcut buttons let you accurately and quickly place logic elements stored in your HP Exstream database. They also ensure you spell the names of variables and functions correctly, and serve as convenient resources for novice programmers.

Logic shortcut buttons



Opens the Variable Palette so you can enter variables at your cursor location.

Opens the **Select Library Function or Subroutine** dialog box so you can enter user-defined functions and subroutines at your cursor location.

Opens the **Select Built-in Function** dialog box so you can enter a built-in function (includes sample syntax) at your cursor location.

Opens the **Select a Condition** dialog box so you can enter comparative conditions and mathematical operators at your cursor location.

Creating efficient and readable code

Inefficient code slows engine processing and makes the code difficult to read, especially when debugging and troubleshooting.

To create more efficient code:

- ♦ Use the fewest number of statements possible.
- ♦ Avoid unnecessary repetition of blocks of code.

To make your code more readable, use:

- ♦ Indentations to indicate nesting and code that is integral to specific statements
- ♦ Parentheses to separate specific pieces of code
- ♦ Spaces between mathematical and concatenation operators
- ♦ Comments to separate blocks of functionally unique code

Comments

Besides making code easier to read when troubleshooting, comments can also be used to explain the functionality of separate pieces of logic.

To insert comments:

- ♦ Use `//` at the beginning of a line to indicate a comment.
 - **Example:**

```
//The engine skips over this line
```
- ♦ Use `/*` and `*/` to add internal comments within a line.
 - **Example:**

```
This is code /* this is a comment */ this is more code
```
- ♦ Use `/*` and `*/` to add multi-line comments between code.
 - This is code.


```
/* This is a comment.
This is a comment*/
This is more code
```

Using variables effectively

Almost every rule, formula, or function you create uses variable information. Use the following guidelines to ensure the best results when using variables:

- ◆ Declare all local variables at the top of your code. Avoid declaring unnecessary variables.
- ◆ Give variables meaningful names. Describe their use or return value. Follow consistent variable naming conventions.

Variable formulas may be a function of themselves. For example:

```
VariableA=VariableA + 1
```

This supports accumulators without using counter variables.

Note:

Reference formula variables in the application if not placed on a page.



Each text string must be enclosed in single or double quotation marks. HP Exstream interprets text without quotation marks as the name of a variable.

Learning check: Defining campaigns and rules

Here are your requirements. Prior to using HP Exstream, discuss how to complete them.

REQUIREMENTS	IN HP EXSTREAM
Include the new DSL promotion for marketing.	
Send the promotion to two different audiences: those without DSL and those with DSL who might be interested in learning about All Access service.	



To complete the following exercises:

- Refer to the *Design Example* in the *101 Lab Guide*, if necessary.
- Make sure you are working in the **Module 3** folder.
- Use each task's corresponding step-by-step instructions if you need help.



Create and define a campaign. This is a two-part exercise.

TASK	SPECIFICS
Create a campaign.	<ul style="list-style-type: none"> • Create a new campaign named DSL With Campaign in the Exstream > Class Exercises > Module 3 folder.
Add a message to a campaign.	<ul style="list-style-type: none"> • Add the AllAccess message to the campaign.

Part 1: Create a campaign

1. Navigate to the **Exstream > Class Exercises > Module 3** folder.
2. Right-click the **Campaigns** heading and select **New Campaign** from the shortcut menu.
3. Enter **DSL With Campaign** in the **Name** box.
4. Enter **To advertise the AllAccess Package for DSL customers** in the **Description** box.
5. Select **No, will add messages later** from the **Create first message** drop-down list.
6. Click **Next**.

Part 2: Add a message to a campaign




1. Click the **Basic** tab in the Property Panel.
2. Expand the **Messages** heading in the Library in the **Module 3** folder.
3. Drag the **AllAccess** message and drop it on the **Messages in campaign** list in the Property Panel.



Target a campaign using a rule. This is a three-part exercise.

TASK	SPECIFICS
Define the campaign targeting rule.	<ul style="list-style-type: none"> Target the campaign using the following code: <pre>IF (Contains(Service, "VivaSpeed DSL") > 0) THEN INCLUDE ENDIF</pre>
Create a second campaign and define the campaign targeting rule.	<ul style="list-style-type: none"> Create an new campaign named DSL Without Campaign. Add the DSL Offer message to the campaign. Target the campaign using the following code: <pre>IF (Contains(Service, "VivaSpeed DSL") = 0) THEN INCLUDE ENDIF</pre>
Package for the Exstream Viewer and view the output.	<ul style="list-style-type: none"> Add the two campaigns to the OneBill Statement Application. Package and view the output.

Part 1: Define the campaign targeting rule

1. Click the **Targeting** tab in the Property Panel.
2. Click anywhere inside the **Targeting rule** box.
3. Click the **Rule Mode Toggle**  button to change from simple rule to advanced rule mode.
4. Click the **Code Toggle**  button.
5. Click the **Variable Palette**  button.
6. Select **Service**.
7. Enter the remainder of the code:

```
IF (Contains(Service, "VivaSpeed DSL") > 0) THEN
    INCLUDE
ENDIF
```

8. Click **OK**.
9. Save and close your campaign.

Part 2: Create a second campaign

1. Create a new campaign named **DSL Without Campaign**.
2. Select **No, will add messages later** from the **Create first message** drop-down list.
3. Click **Next**.
4. Click the **Basic** tab.
5. Add the **DSL Offer** message to the **DSL Without Campaign**.
6. Click the **Targeting** tab.
7. Enter the following code:

```
IF (Contains(Service, "VivaSpeed DSL") = 0) THEN
    INCLUDE
ENDIF
```
8. Click **OK**.
9. Save and close your campaign.

Part 3: Package for the Exstream Viewer and view the output

1. Drag the **DSL With Campaign** and the **DSL Without Campaign** to the **OneBill Statement Application** in any order.
2. Package the **OneBill Statement Application**.
3. View the output in the Exstream Viewer.

Creating advanced tables

With the Advanced Tables module, you can use automated tables to create complex transaction tables that flow across multiple rows, columns, and even pages. These tables can grow based on your customer data. Customers who have fewer transactions will have a shorter table than those with more transactions.

Since automated tables can grow, it may be necessary to use relativity. Relativity lets you keep objects a specific distance apart no matter where they appear on the page.

This lesson discusses how to create two different types of automated tables and how to make an object relative to a growing object.

Objectives

After you complete this lesson, you should be able to do the following:

- ♦ Create and define a basic automated table.
- ♦ Define automated row properties.
- ♦ Set relativity on a message frame.
- ♦ Create and define an automated table with sections.

Terms

Important terms used in this lesson include:

Relativity—The ability of objects to remain a specific distance from each other as they grow or move.

Additional information

For more information on this topic, refer to the following guides:

- ♦ *Table Processing* guide
- ♦ *Flow and Relativity* guide






Modules

In addition to HP Exstream, we will discuss the Advanced Tables module in this lesson.

Creating and defining basic automated tables

Automated tables are dynamic and can change for each customer. For example, the number of rows a table has can change based on the number of phone calls made. If you want to create automated tables, you must license the Advanced Tables module. Without it, you can create only simple tables.

The following table types are available with the Advanced Tables module.

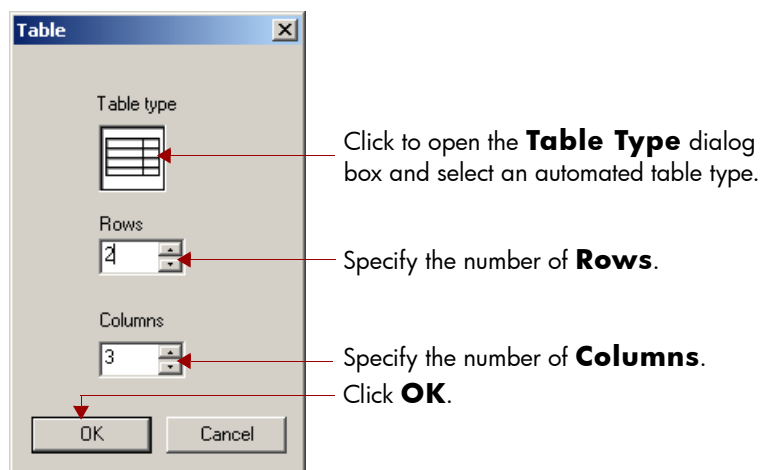
ICON	TYPE	DESCRIPTION
	Basic Automated Table	The table has automated rows, headers, and footers, but there are no table sections that control which parts of the table are generated.
	Automated Table with Sections	The table has sections to control which sections are produced and in what order.
	Automated Table with Levels	The table has sections with levels to enable complex header and footer logic.
	Basic Automated Table with Automated Columns	The table has automated rows and columns, but there are no sections to control which parts of the table are generated.
	User Table	All table features are enabled to allow full user control.

Creating automated tables

To create an automated table, you can either:

- Click  from the Drawing Objects toolbar.
- From the Menu bar, click **Insert > Drawing Object > Table**.

Table dialog box



Applying flow properties to a table

To apply flow properties to a table, right-click the table and select **Table Properties** from the shortcut menu.

Dynamic Size and Placement tab

Enables the table to break and continue onto a new page, if necessary.

How close the table can get to the bottom of the page.

Table Properties					
Table	Lines and Fill	Placement	Dynamic Size and Placement	Rule	Live
Reference name		Ignore for relative flow			
<input type="text" value="Table"/>		<input type="text" value="No"/>			
<input type="checkbox"/> Can split and flow		Move relative to the object			
<input type="checkbox"/> Autosize width		<input type="text" value="None (does not move)"/>			
<input checked="" type="checkbox"/> Autosize height		Break flow on this object			
Page flow limit		<input type="text" value="Automatic"/>			
<input type="text" value="11.000 in"/>		When to compose			
Minimum flow size		<input type="text" value="When page created"/>			
<input type="text" value="0.000 in"/>		How text wraps around this object			
Minimum height		<input type="text" value="Does not wrap around"/>			
<input type="text" value="0.000 in"/>		Table sort key		Index	
		<input type="text" value="No Variable"/>		<input type="text" value="1"/>	

Click **OK**. The flow properties for the table are set.

Note:

For the table to flow, you must define a flow page with a flow frame that can accept the content.



Observe the demonstration.

Defining automated rows

With the Advanced Tables module, table rows and columns can be automated so they repeat as necessary.

Automated tables can have repeating:

- ♦ Headers
- ♦ Rows
- ♦ Footers
- ♦ Columns

Note:

To define automated columns, you must select **Basic Automated Table with Automated Columns** or a **User Table** from the **Table Type** dialog box.

Automated row properties

You specify automated row properties on the **Row Properties** dialog box. To access the **Row Properties** dialog box, right-click the highlighted row and select **Row properties** from the shortcut menu. The **Row Properties** dialog box opens. Select the **Automated Row Properties** tab.

Automated Row Properties tab in the Row Properties dialog box

Specifies if the row is a header, footer, or autorow.

Determines the number of rows that should appear.

Specifies how columns should be filled, if you are filling multiple columns.

Click **OK**. The row is automated according to the **Row type** selected.

Automated row symbols

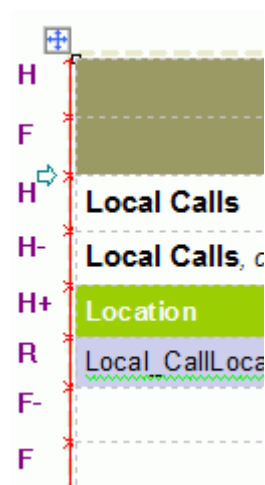
To help identify how each row is used, symbols appear to the left of the row.

SYMBOL	ROW TYPE	DESCRIPTION
None	Not automated	<ul style="list-style-type: none"> Static row
R	Automated, based on repeat criteria	<ul style="list-style-type: none"> A repeating row Repeating Row area options become available
H	Header	<ul style="list-style-type: none"> A header row Used only once
H+	Repeating header	<ul style="list-style-type: none"> A header row Repeats on each page
H-	Repeating header, except first page	<ul style="list-style-type: none"> A header row Appears on each page except the first
Hpf	Header, if at top of flow frame	<ul style="list-style-type: none"> Automated table with sections Automated table with levels User table
Hmf	Header, if NOT at top of flow frame	<ul style="list-style-type: none"> Automated table with sections Automated table with levels User table
Hp	Header, if 1st occurrence on page (Used with table sections only)	<ul style="list-style-type: none"> Automated table with sections Automated table with levels User table
Hm	Header, if NOT 1st occurrence on page (Used with table sections only)	<ul style="list-style-type: none"> Automated table with sections Automated table with levels User table
F	Footer	<ul style="list-style-type: none"> A footer row Used only once
F+	Repeating footer	<ul style="list-style-type: none"> A footer row Repeats on each page
F-	Repeating footer, except last page	<ul style="list-style-type: none"> A footer row Appears on each page except the last

Note:

You can also view what the table symbols mean if you select the **Table > Explain Table Symbols**.

Table with automated row symbols



H	
F	
H	Local Calls
H-	Local Calls, c
H+	Location
R	Local CallLoca
F-	
F	



Observe the demonstration.

Using relativity to control the placement of objects

In HP Exstream, design objects interact with other design objects on a page. Relativity keeps objects that grow in size from overlapping other objects. Relativity is the ability of objects to remain a specific distance from each other as they grow and move.

Design objects fall into two types of categories: static and dynamic.

CATEGORY	DESCRIPTION
Static	<ul style="list-style-type: none"> Does not increase in size when: <ul style="list-style-type: none"> The engine is run Composed on a page Includes lines, shapes, images, and barcodes
Dynamic	<ul style="list-style-type: none"> Can move as objects around them move or grow Include objects whose placement, text flow, wrap, or break properties are set in the Dynamic Size and Placement tab Can increase in size as information is added to them

Setting an object's relativity properties lets you control the flow of objects throughout the document. This lets the object to become dynamic and change location.

When working with relative objects, select **Links** from the **View** menu. A red dotted line shows any relative links with the current object.

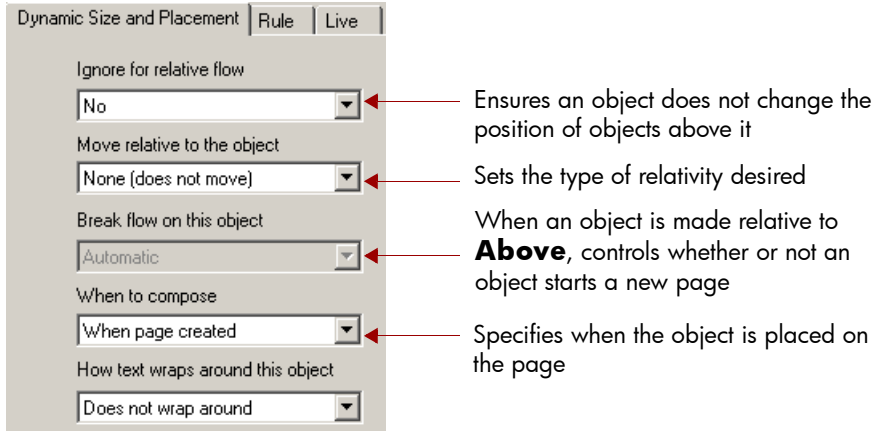
Relativity lets you maintain a specific distance between objects. The following table outlines the relativity properties that can be applied to design objects:

RELATIVITY	MOVES
Relative to bottom of another object	<ul style="list-style-type: none"> Up or down if the bottom of the anchor object is moved Left or right if the left side of the anchor object is moved
Relative to top of other object	<ul style="list-style-type: none"> Up or down if the top of the anchor object is moved Left or right if the left side of the anchor object is moved
Relative to right side of an object	<ul style="list-style-type: none"> Sideways if the right side of the anchor object is moved Up or down if the top is moved
Relative to left side of an object	<ul style="list-style-type: none"> Sideways if the left side of the anchor object is moved Up or down if the top is moved
Relative to above, at fixed page position	<ul style="list-style-type: none"> Appears at the same place on a page when moved but allows additional pages to be composed before the page on which it appears. Select a vertical position for the beginning position of the object from the Y position box

Setting relativity

To set relativity properties for an object, right-click the object and select **Object properties** from the shortcut menu. Select from the following options on the **Dynamic Size and Placement** tab.

Relativity properties in the **Dynamic Size and Placement** tab



The screenshot shows the 'Dynamic Size and Placement' tab with two sub-tabs: 'Rule' and 'Live'. The 'Rule' sub-tab is active. It contains six settings, each with a dropdown menu and a red arrow pointing to an explanation:

- Ignore for relative flow**: Set to 'No'. Explanation: Ensures an object does not change the position of objects above it.
- Move relative to the object**: Set to 'None (does not move)'. Explanation: Sets the type of relativity desired.
- Break flow on this object**: Set to 'Automatic'. Explanation: When an object is made relative to **Above**, controls whether or not an object starts a new page.
- When to compose**: Set to 'When page created'. Explanation: Specifies when the object is placed on the page.
- How text wraps around this object**: Set to 'Does not wrap around'.



Observe the demonstration.

Creating and defining automated tables with sections

Automated Tables with Sections enable you to create sections of repeating automated rows. For example, you can have a series of section headers, footers, and rows for each type of customer account.

The major difference between Basic Automated Tables and Automated Tables with Sections are the automated row properties.

Automated Row Properties tab

Specifies how the row is used.

The row starts a new section.

Row starts in a new flow frame.

The fewest rows allowed on a page.

The most rows allowed on a page.

When the section is created.

The dialog box 'Row Properties' has the following settings visible:

- Row type:** Not automated
- Group processing:**
 - ☐ Group with previous row
 - Group rule method:** None, each row must have rule
- Header processing:**
 - Overlapping header:** Does not overlap next row (normal)
- Table section (set of rows):**
 - ☒ First row of table section
 - ☐ Break flow
 - ☒ Widow and orphan rows
 - ☐ Limit number of rows per page
 - When to include section:** Page created, if variable count > 0
 - Data section:** [Empty text box]
 - Variable:** No Variable
 - ☐ Create multiple table sections from single array (must begin with header)



Observe the demonstration.

Learning check: Creating advanced tables

Here are your requirements. Prior to using HP Exstream, discuss how to complete them.

REQUIREMENTS	IN HP EXSTREAM
Summarize this month's services using a table that will vary for each customer.	
Include the new cell phone announcement if there is room.	
Create a page detailing all the calls, broken down by Local Calls, Long Distance, and Cell Calls.	



To complete the following exercises:


- Refer to the *Design Example* in the *101 Lab Guide*, if necessary.
- Make sure you are working in the **Module 3** folder.
- Use each task's corresponding step-by-step instructions if you need help.



Create and define a basic automated table. This is a three-part exercise.

TASK	SPECIFICS
Create the Service Summary table.	<ul style="list-style-type: none"> • Create a Basic Automated Table on the OneBill Statement Page that has 2 rows and 2 columns.
Position and format the Service Summary table.	<ul style="list-style-type: none"> • Size and place the table to match the <i>Design Example</i> in the <i>Lab Guide</i>. • Make sure the table has no frame.
Define the Service Summary table.	<ul style="list-style-type: none"> • Put the 'Service' variable in the first cell and the 'ServicePrice' variable in the second cell of the first row. • Enter Total in the first cell of the second row and the 'TotalCharges' variable in the second cell.

Step 1: Create the Service Summary table


1. Navigate to **Exstream > Class Exercises > Module 3 > Pages**.
2. Drag the **OneBill Statement Page** into the Edit Panel.
3. Click the **Table**  button on the Drawing Objects toolbar.
4. Click the **Table type** icon.
5. Select the **Basic Automated Table** radio button.
6. Click **OK** to return to the **Table** dialog box.

7. Enter **2** in the **Rows** box.
8. Enter **2** in the **Columns** box.
9. Click **OK**.

Step 2: Position and format the Service Summary table

1. Right-click the table and select **Table Properties** from the shortcut menu.
2. Click the **Dynamic Size and Placement** tab.
3. Change the **Reference name** to **Service Summary Table**.
4. Click the **Placement** tab.
5. Adjust the table's **Horizontal position** and **Vertical position** using the *Design Example* in the *Lab Guide*.
6. Adjust the table's **Width** to match the *Design Example* in the *Lab Guide*.
7. Click the **Lines and Fill** tab.
8. Select **None** from the **Frame** box.
9. Click **OK**.

Step 3: Define the Service Summary table

1. If the **Variable Palette** is not displayed, click the **Variable Palette**  button on the Standard toolbar.
2. Click in the first cell of the first row.
3. Double-click the 'Service(n)' variable in the **Variable Palette**.
4. Click in the second cell of the first row.
5. Double-click the 'ServicePrice(n)' variable in the **Variable Palette**.
6. Click in the first cell of the second row.
7. Enter **Total**.
8. Click in the second cell of the second row.
9. Double-click the 'TotalCharges' variable in the **Variable Palette**.
10. Close the **Variable Palette**.
11. Save your page.



Define automated row properties. This is a four-part exercise.

TASK	SPECIFICS
Set row automation for an automated table.	<ul style="list-style-type: none"> Automate the first row by setting the Row type to Automated, based on repeat criteria. Make the row repeat based on the Number of elements in array. Use 'Service' as the Repeat variable.
Add a line above the total.	<ul style="list-style-type: none"> Put a solid line with a weight of 0.01 in above the second row.
Format table content.	<ul style="list-style-type: none"> Format the fonts in the table to match the <i>Design Example</i> in the <i>Lab Guide</i>. Align the decimals of the variables in column 2 at .875 in.
Package for the Exstream Viewer and view the output.	<ul style="list-style-type: none"> Package and view the output.

Part 1: Set row automation for an automated table

1. Highlight the first row of the table.
2. Right-click the row and select **Row properties** from the shortcut menu.
3. Click the **Automated Row Properties** tab.
4. Select **Automated, based on repeat criteria** from the **Row type** drop-down list.
5. Select **Number of elements in array** from the **Repeat method** drop-down list.
6. Select 'Service(n)' as the **Repeat variable**.
7. Click **OK**.
8. Save your page.

Part 2: Add a line above the total

1. Highlight the second row of the table.
2. Right-click on the row and select **Row properties** from the shortcut menu.
3. Click the **Row Properties** tab.
4. Add a solid **Line above** with a line weight of **0.01 in**.
5. Click **OK**.
6. Save your page.

Part 3: Format table content

1. Highlight all the cells in both rows and change the font to match the *Design Example* in the *Lab Guide*.
2. Highlight the variables in column 2.
3. Set a decimal tab at **.875 in.**
4. Tab the variables into position.
5. Save and close your page.

Part 4: Package for the Exstream Viewer and view the output



1. Package the **OneBill Statement Application**.
2. View the output in the Exstream Viewer.



Set relativity on a message frame. This is a six-part exercise.

TASK	SPECIFICS
Create an announcement message.	<ul style="list-style-type: none"> • Create a text message named New Cell Phone and select Announcement as the Message type. • Target the message using the following code: IF (COUNT(Cell_CallNumber) > 0) THEN INCLUDE ENDIF • Add the New Cell Phone message to the OneBill Statement Document under the Remittance Coupon Message. • Open the message in Designer.
Add content to the announcement message.	<ul style="list-style-type: none"> • Import the NewCellPhone.txt file. • Format the message to match the <i>Design Example</i> in the <i>Lab Guide</i>.
Create an announcement message frame.	<ul style="list-style-type: none"> • Open the OneBill Statement Page and add a message frame that accepts Announcement messages. • Position and size the frame to match the <i>Design Example</i> in the <i>Lab Guide</i>.
Assign frame fill order.	<ul style="list-style-type: none"> • Place the frames in the correct order: <ul style="list-style-type: none"> • 1—Graphic (Remittance) • 2—Text (Announcement) • 3—Text (Advertisement)
Assign relativity.	<ul style="list-style-type: none"> • Make the frame relative to above. • Clear the Adjust top if overlapped check box.
Package for the Exstream Viewer and view the output.	<ul style="list-style-type: none"> • Package and view the output.

Step 1: Create an announcement message


1. Navigate to the **Exstream > Class Exercises > Module 3** folder.
2. Create a new message named **New Cell Phone** and add an appropriate **Description**.
3. Click **Next**.
4. Select **Text** as **Type of message** and **Announcement** as **Message type**.
5. Click **OK**.
6. Click **Finish**.
7. Click the **Targeting** tab.
8. Click inside the **Targeting rule** box to open the **Rule** dialog box.
9. Click the **Rule Mode Toggle**  button.
10. Click the **Code Toggle**  button.
11. Add a rule that reads:

```
IF (COUNT(Cell_CallNumber) > 0) THEN
    INCLUDE
ENDIF
```
12. Click **OK**.
13. Save your message.
14. Close the Property Panel.
15. Drag the **New Cell Phone** message to the **OneBill Statement Document** and drop it beneath the **Remittance Coupon Message**.
16. Drag the **New Cell Phone** message to the Edit Panel.

Step 2: Add content to the announcement message

1. Right-click in the message and select **Insert > Import Text File** from the shortcut menu.
2. Browse to **C:\101 Introduction to HP Exstream\Text Files\NewCellPhone.txt**.
3. Click **Open**.
4. Format the message heading and body to match the *Design Example* in the *Lab Guide*.
5. Save and close the message, leaving Designer open.
6. Open the **OneBill Statement Page** in the **Class Exercises > Module 3** folder.

Step 3: Create an announcement message frame

1. Click the **Frame**  button to add a message frame beneath the **Service Summary** table.
2. Select the **Text messages** check box.
3. From the **Allowed message type** drop-down list, select **Announcement**.
4. Click **OK**.
5. Right-click the frame and select **Frame Properties** from the shortcut menu.

6. Click the **Placement** tab.
7. Change the frame's **Horizontal position**, **Vertical position**, **Width** and **Height** to match the *Design Example* in the *Lab Guide*.
8. Click **OK**.
9. Save your page.

Step 4: Assign frame fill order

1. Right-click the **Announcement** frame and select **Frame Properties** from the shortcut menu.
2. Click the **Message Frame** tab and enter 2 in the **Fill order** box.
3. Verify the fill order on all the frames. Repeat steps 1–2 to correct the order:
 - 1—Graphic (Remittance)
 - 2—Text (Announcement)
 - 3—Text (Advertisement)
4. Save your page.

Step 5: Assign relativity

The Service Summary table varies in height depending on the number of services that a customer purchased. The message beneath the table needs to 'float' beneath the table to accommodate the table's expansion and contraction.

1. Right-click the **Announcement** frame and select **Frame Properties** from the shortcut menu.
2. Click the **Dynamic Size and Placement** tab.
3. Select **Above** from the **Move relative to the object** drop-down list.
4. Click the **Message Frame** tab.
5. Clear the **Adjust top if overlapped** check box.
6. Click **OK**.
7. Save and close your page.

Step 6: Package for the Exstream Viewer and view the output

1. Package the **OneBill Statement Application**.
2. View the output in the Exstream Viewer.



Answer the following question.

1. Which customers get the New Cell Phone message? Why?



Create and define an automated table with sections. This is a eighteen-part exercise.


TASK	SPECIFICS
Create an overflow page.	<ul style="list-style-type: none"> Create the Account Activity Overflow Page using the Statement Activity page template. Make the overflow from the page flow to itself.
Create a flow area.	<ul style="list-style-type: none"> Open the page in Designer and insert a flow frame in the position and size to match the <i>Design Example</i> in the <i>Lab Guide</i>.
Create a page from a template.	<ul style="list-style-type: none"> Create the Account Activity Page using the Statement Activity page template. Make the page flow to the Account Activity Overflow Page. Add the Account Activity Page to the OneBill Statement Document under the OneBill Statement Page.
Create an automated table with sections.	<ul style="list-style-type: none"> Open the Account Activity Page in Designer and add an Automated Table with Sections that has 8 rows and 3 columns. Disable Enable data section processing.
Define automated table with section properties.	<ul style="list-style-type: none"> Set the table to split and flow, and make sure it goes no further than 9.75 inches down the page. Adjust the table's size and position to match the <i>Design Example</i> in the <i>Lab Guide</i>. Make sure there is no frame around the table.
Format table header and footer.	<ul style="list-style-type: none"> Join the cells in the first two rows. Enter Account Activity in the first row and End Account Activity in the second row.
Format local call headers.	<ul style="list-style-type: none"> Join the cells in the third and fourth rows. Enter Local Calls in the third row, and Local Calls, continued from the previous page in the fourth row. In the fifth row, enter Location in the first cell, Number in the second, and Length of call in the third.
Add local call data.	<ul style="list-style-type: none"> In the sixth row, enter the 'Local_CallLocation' variable in the first cell, 'Local_CallNumber' in the second, and 'Local_CallLength' in the third.
Format table cells.	<ul style="list-style-type: none"> Join the cells in the last two rows and enter Local Calls, continued on the next page in the seventh row and End Local Calls in the eighth row. Format all the cells in the table using the following Table row properties table. Select the Alternate fill in table rows check box.

TASK	SPECIFICS
Define table header and footer automation.	<ul style="list-style-type: none"> Make the first row a Header and the second row a Footer.
Define local call header automation.	<ul style="list-style-type: none"> Make the third row a Header that is the First row of table section. Include it when Page created, if variable count > 0. Use the 'Local_CallNumber' variable. Make the fourth row a Repeating header, except first page and the fifth row a Repeating header.
Define local call data automation.	<ul style="list-style-type: none"> Make the sixth row Automated, based on repeat criteria. Use the Number of elements in array for the Repeat method. Use the 'Local_CallNumber' variable.
Define local call footer automation.	<ul style="list-style-type: none"> Make the seventh row a Repeating footer, except last page and the eighth row a Footer.
Package for the Exstream Viewer and view the output.	<ul style="list-style-type: none"> Package and view the output.

Part 1: Create an overflow page


- Navigate to **Exstream > Class Exercises > Module 3**.
- Create a page named **Account Activity Overflow Page**.
- Add an appropriate **Description** and click **Next**.
- Select **Statement Activity** for the **Page Template**.
- Click **OK**.
- Click **Finish**.
- Click the **Flow** tab.
- From the **Destination of overflow from this page** drop-down list, select **Copy this page**.
- Save and close the Property Panel.
- Select the **Account Activity Overflow Page**.
- Drag the **Account Activity Overflow Page** to the Edit Panel.

Part 2: Create a flow area


- Click the **Frame**  button on the Drawing Objects toolbar.
- Select **Content flow area**.
- Click **OK** to close the **New Frame** dialog box.
- Click **OK** to accept the default frame properties.
- Right-click the frame and select **Frame Properties** from the shortcut menu.
- Click the **Placement** tab.
- Adjust the frame's **Horizontal position** and **Vertical position** to match the *Design Example* in the *Lab Guide*.
- Adjust the frame's **Width** and **Height** to match the *Design Example* in the *Lab Guide*.

9. Click **OK** to close the dialog box.
10. Save and close your page.

Part 3: Create a page from a template

1. Navigate to **Exstream > Class Exercises > Module 3**.
2. Create a page named **Account Activity Page**.
3. Add a **Description** and click **Next**.
4. Select **Statement Activity** for the **Page Template**.
5. Click **OK**.
6. Click **Finish**.
7. Click the **Flow** tab.
8. Select **Flow to specified page** from the **Destination of overflow from this page** drop-down list.
9. In the **Page** box, click the **Page Overflow**  button.
10. Navigate to the **Exstream > Class Exercises > Module 3** folder
11. Select **Account Activity Overflow** Page.
12. Click **OK**.
13. Save the page and close the Property Panel.
14. Drag the **Account Activity Page** and drop it on the **OneBill Statement Document** beneath the **One-Bill Statement Page**.
15. Drag the **Account Activity Page** to the Edit Panel.

Part 4: Create an automated table with sections

1. Click the **Table**  button on the Drawing Objects toolbar.
2. Click the **Table type** icon.
3. Click the **Automated Table with Sections** radio button.
4. Clear the **Enable data section processing** check box.
5. Click **OK** to return to the Table dialog box.
6. Enter 8 in the **Rows** box.
7. Enter 3 in the **Columns** box.
8. Click **OK**.
9. Save your page.

Part 5: Define automated table with section properties

1. Right-click the table and select **Table Properties** from the shortcut menu.
2. Click the **Dynamic Size and Placement** tab.
3. Change the **Reference name** to `Account Activity Table`.
4. Select the **Can split and flow** check box.
5. Enter `9.75 in` for the **Page flow limit**.
6. Click the **Placement** tab.
7. Adjust the table's **Horizontal position** and **Vertical position** to match the *Design Example* in the *Lab Guide*.
8. Adjust the table's **Width** to match the *Design Example* in the *Lab Guide*.
9. Click the **Lines and Fill** tab.
10. Select **None** from the **Frame** box.
11. Click **OK**.
12. Save your page.


Part 6: Format table header and footer

1. Highlight the first two rows.
2. Right-click and select **Join cells** from the shortcut menu.
3. In the first row, enter `Account Activity`.
4. In the second row, enter `End Account Activity`.

Part 7: Format local call headers

1. Highlight the third and fourth rows.
2. Right-click and select **Join cells** from the shortcut menu.
3. In the third row, enter `Local Calls`.
4. In the fourth row, enter `Local Calls, continued from the previous page`.
5. In the first cell of the fifth row, enter `Location`.
6. In the second cell of the fifth row, enter `Number`.
7. In the third cell of the fifth row, enter `Length of Call`.

Part 8: Add local call data

1. If the **Variable Palette** is not displayed, click the **Variable Palette**  button on the Standard toolbar.
2. In the first cell of the sixth row, import 'Local_CallLocation'.
3. In the second cell of the sixth row, import 'Local_CallNumber'.
4. In the third cell of the sixth row, import 'Local_CallLength'.
5. Close the **Variable Palette**.
6. Save the page.

Part 9: Format table cells

1. Highlight the last two rows.
2. Right-click and select **Join cells** from the shortcut menu.
3. In the seventh row, enter **Local Calls, continued on the next page**.
4. In the eighth row, enter **End Local Calls**.
5. Save your page.
6. Right-click the table and select **Table Properties** from the shortcut menu.
7. Click the **Table** tab.
8. Select the **Alternate fill in table rows** check box.
9. Click **OK**.
10. Format the cells, using the table below and the *Design Example* in the *Lab Guide* for help.

TABLE ROW PROPERTIES

ROW	FONT	FONT COLOR	JUSTIFICATION	BACKGROUND COLOR
1	• Arial 12B	White	Center	Vivanet Olive
2	• Arial 12B	White	Center	Vivanet Olive
3	• Arial 11B	Black	Left	None
4	• Arial 11B • Arial 9I	Black	Left	None
5	• Arial 10B	White	Left	Vivanet Lime
6	• Arial 10	Black	Left	Vivanet Blue 20
7	• Arial 11B • Arial 9I	Black	Right	None
8	• Arial 11B	Black	Right	None

Note:In the table above, apply **Arial 9I** to the text that follows the comma (,) in rows 4 and 7

11. Save your page.

Part 10: Define table header and footer automation

1. Highlight the first row.
2. Right-click and select **Row Properties** from the shortcut menu.
3. Click the **Automated Row Properties** tab.
4. Select **Header** from the **Row type** drop-down list.
5. Click **OK**.
6. Highlight the second row.
7. Repeat steps 2–5, selecting **Footer** from the **Row type** drop-down list.

Part 11: Define local call header automation

1. Highlight the third row.
2. Right-click and select **Row Properties** from the shortcut menu.

3. Click the **Automated Row Properties** tab.
4. Select **Header** from the **Row type** drop-down list.
5. Select the **First row of table section** check box.
6. Select the **Widow and orphan rows** check box.
7. Select **Page created, if variable count > 0** from the **When to include section** drop-down list.
8. Import 'Local_CallNumber' as the **Variable**.
9. Click **OK**.
10. Highlight the fourth row.
11. Repeat steps 2–4, selecting **Repeating header, except first page** from the **Row type** drop-down list.
12. Click **OK**.
13. Highlight the fifth row.
14. Repeat steps 2–4, selecting **Repeating header** from the **Row type** drop-down list.
15. Click **OK**.
16. Save your page.

Part 12: Define local call data automation

1. Highlight the sixth row.
2. Right-click and select **Row Properties** from the shortcut menu.
3. Click the **Automated Row Properties** tab.
4. Select **Automated, based on repeat criteria** from the **Row type** drop-down list.
5. Select **Number of elements in array** from the **Repeat method** drop-down list.
6. Import 'Local_CallNumber' as the **Repeat variable**.
7. Click **OK**.
8. Save your page.

Part 13: Define local call footer automation

1. Highlight the seventh row.
2. Right-click and select **Row Properties** from the shortcut menu.
3. Click the **Automated Row Properties** tab
4. Select **Repeating Footer, except last page** from the **Row type** drop-down list.
5. Click **OK**.
6. Highlight the eighth row.
7. Repeat steps 2–4, selecting **Footer** from the **Row type** drop-down list.
8. Click **OK**.
9. Save and close your page.

Part 14: Package for the Exstream Viewer and view the output

1. Package the **OneBill Statement Application**.
2. View the output in the Exstream Viewer.

Part 15: Create the long distance section

Reuse the Local Call table section to create the Long Distance Call table section.

1. Drag the **Account Activity Page** to the Edit Panel.
2. Select the table and highlight rows 3–8.
3. Right-click and select **Copy row** from the shortcut menu.
4. Change **Local** to **Long Distance** in table rows 9–14.
5. Remove the variables in row 12.
6. Import 'LD_CallLocation', 'LD_CallNumber', and 'LD_CallLength' into the row 12 cells.
7. Change the row 9 **When to include section** variable to 'LD_CallNumber'.
8. Change the row 12 **Repeat variable** to 'LD_CallNumber'.
9. Save and close your page.

Part 16: Package for the Exstream Viewer and view the output

1. Package the **OneBill Statement Application**.
2. View the output in the Exstream Viewer.

Part 17: Create the cell phone section

1. Drag the **Account Activity Page** to the Edit Panel.
2. Select the table and highlight rows 9–14.
3. Right-click and select **Copy row** from the shortcut menu.
4. Change **Long Distance** to **Cell Phone** in table rows 15–20.
5. Remove the variables in row 18.
6. Import 'Cell_CallLocation', 'Cell_CallNumber', and 'Cell_CallLength' into the row 18 cells.
7. Change the row 15 **When to include section** variable to 'Cell_CallNumber'.
8. Change the row 18 **Repeat variable** to 'Cell_CallNumber'.
9. Save and close your page.

Part 18: Package for the Exstream Viewer and view the output

1. Package the **OneBill Statement Application**.
2. View the output in the Exstream Viewer.

Module 4: Creating policies

Exploring basic data file concepts

To put customized information on a page, you need a way to pull that information from a data source. HP Exstream accomplishes this using data files. You map system and user variables to specific data elements in your file. When you place the variables in your design, they are replaced with information from the data file at engine run-time.

Objectives

After you complete this lesson, you should be able to do the following:

- ♦ Create and define a customer driver data file.
- ♦ Map a data file.

Terms

Important terms used in this lesson include:

Data file—A data file is a Library object that points to your organization's data content (for example, customer address information). HP Exstream uses data files to read from or write to a particular external data source and determine how the engine uses the data.

Data mapping—The process of assigning areas of a data file to one or more variables. When the engine runs, it reads, writes, or updates data in data areas according to the properties of the variables.

Delimiter—A character (such as a ,) used to separate data in a data source

Additional information

For more information on this topic, refer to the following guides:

- ♦ *Data Files guide*
- ♦ *HP Exstream Interface and Shortcuts Quick Reference guide*
- ♦ *Variables guide*
- ♦ *210: Advanced Data Concepts course*

Creating and defining data files

Data files are objects that tell HP Exstream how to read or write a particular external data source and how that data is to be used by the engine. These data sources can be external data files or ODBC-compliant databases. Using the open architecture of HP Exstream, these files are accessed by path and name.

Data files are found under the **Data Files** heading in the Library. They are managed much like other objects.


Creating data files

Data files are created in Design Manager.

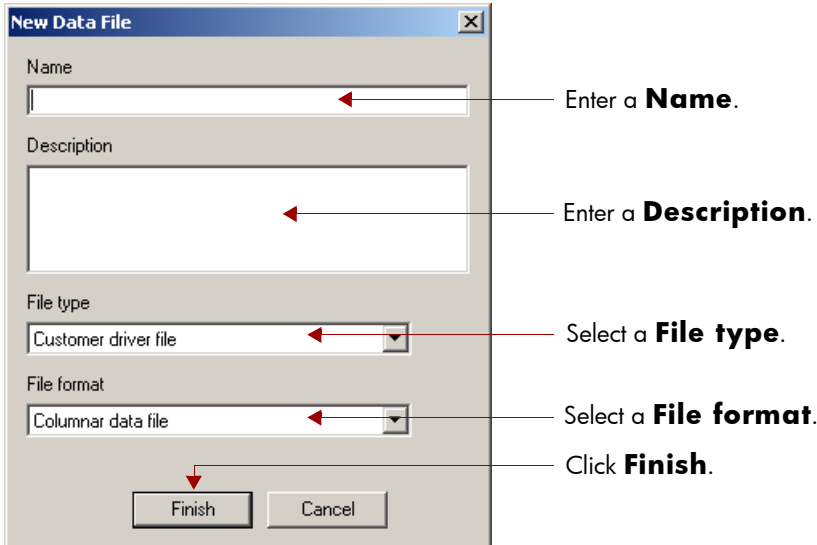
Note:

Before creating a data file, identify how the data is laid out. For example, is the data split into columns, is it separated by a character, or is it XML? This determines your data file format.

To create a data file in HP Exstream, you can either:

- ♦ Highlight the **Data Files** heading in the desired folder and click .
- ♦ Right-click the **Data Files** heading in the desired folder and select **New Data File** from the shortcut menu.

New Data File dialog box



The image shows the 'New Data File' dialog box with the following fields and controls:

- Name:** A text input field with an annotation 'Enter a **Name**.' pointing to it.
- Description:** A text area with an annotation 'Enter a **Description**.' pointing to it.
- File type:** A dropdown menu currently showing 'Customer driver file' with an annotation 'Select a **File type**.' pointing to it.
- File format:** A dropdown menu currently showing 'Columnar data file' with an annotation 'Select a **File format**.' pointing to it.
- Buttons:** 'Finish' and 'Cancel' buttons at the bottom. An annotation 'Click **Finish**.' points to the 'Finish' button.

When you click the **Finish** button, the data file is added to the Library and displayed in the Property Panel for you to define.

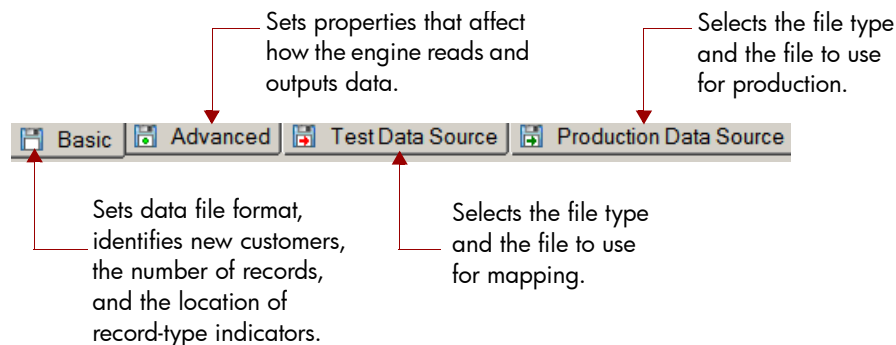


Once you select a **File type** and click **Finish**, it cannot be changed. You must delete the data file and create a new one of the desired type.

Defining data files

After you create a data file you must define it using the Property Panel tabs.

Data File tabs in the Property Panel



Basic tab

Before using an HP Exstream data file, you can test your data by setting the following options on the **Basic** tab:

- ◆ If you are using a delimited data file, enter the delimiter in the **Delimiter** text box.
- ◆ Select an option from the **How to identify customers** in the data file drop-down list.
- ◆ If you select **Each customer has same number of records**, enter a number in the **Number of records per customer** box.
- ◆ If you select either of the other options, enter the location and size of the locator. If the field is delimited, enter 0 for the size.

Test Data Source tab

Before using an HP Exstream data file in development, you can test your data by setting the following options on the **Test Data Source** tab:

- ◆ Select an option from the **Type** drop-down list.
- ◆ If you use a file for a test data source, enter the full file path and name in the **File to use for data mapping** text box.

Production Data Source tab

Before using an HP Exstream data file in production, you must set the following options on the **Production Data Source** tab:

Select an option from the **Type** drop-down list.

If you use a file for a production data source, enter the path and file name in the **File to use in production** text box.



You must specify a file name or a connector in both the **Test Data Source** and **Production Data Source** tabs. If you try to save the data file without this information, you receive a message.



Observe the demonstration.

Mapping a data file

When a data file is mapped, each variable is tied to a specific record in the data source. HP Exstream data files reference external data sources at engine run-time.

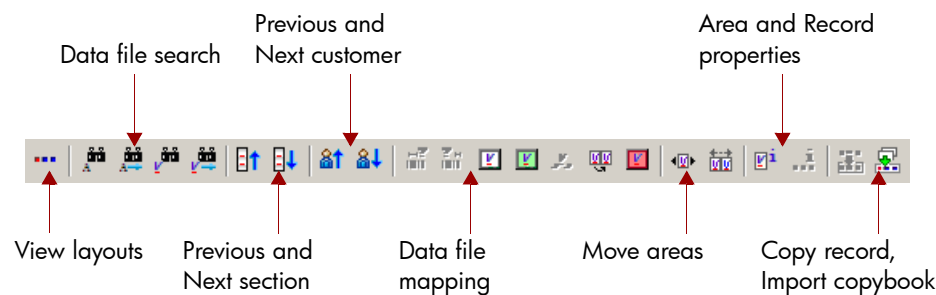
Data Mapping toolbar

The Data Mapping toolbar makes mapping easy. The toolbar is located, by default, at the bottom of the Design Manager window. The toolbar is active when data files are opened or data mapping is initiated. The toolbar is inactive when data mapping is concluded.

You can use the Data Mapping toolbar to accomplish common data mapping tasks, such as:


- ◆ Viewing variables and data layouts
- ◆ Finding text and variables
- ◆ Navigating by section or customer
- ◆ Identifying record or customer indicators
- ◆ Mapping variables or delimited items

Data Mapping toolbar

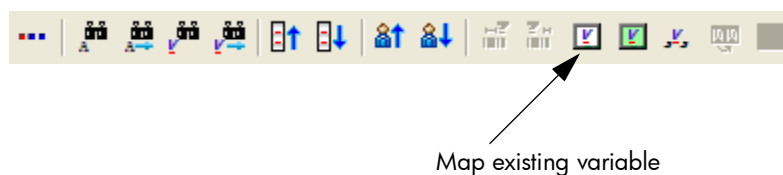


Mapping data files with existing variables

To map a data file with an existing variable, drag the data file into the Edit Panel. Select a data area to be mapped by highlighting it and either:

- ◆ Right-click and select **Data Area > Map Existing Data Item** from the shortcut menu.
- ◆ Click the white  on the Data Mapping toolbar.

Data Mapping toolbar



- ◆ In the **Variable Palette**, double-click a variable to select it and open the **Data Area Properties** dialog box.

Data Area Properties dialog box

The screenshot shows the 'Data Area Properties' dialog box with the following settings:

- Use:** Input
- Make confidential using:** No change
- Group...** button
- Variable:** CustomerLastName
- Type:** String
- Format:** Trim Trailing Blanks
- Start:** 12
- Length:** 14
- Implied digits:** 0
- Action if data not found:** Ignore
- Output justification:** None (selected), Left, Right
- Output padding:** Space (' ') (selected), Zero ('0')

Select how missing values are processed by the engine.

Select a format for the data area.

Select or modify the variable to be mapped to the data area.

Specify **Start** and **Length** values for the data area to be mapped. Use 0 for length if you are mapping a delimited file.

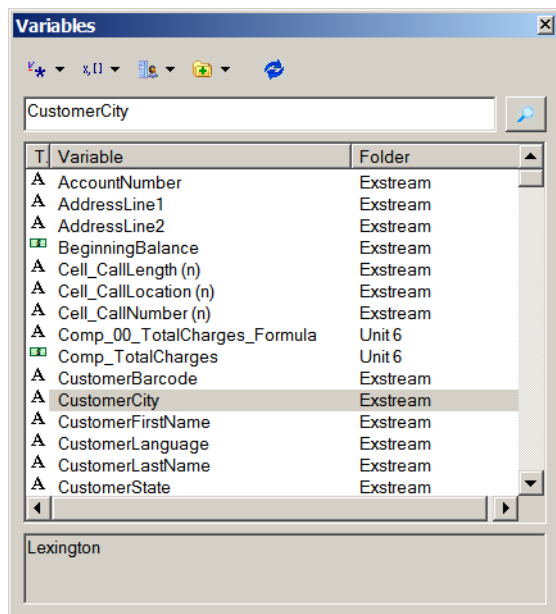
Make any desired changes to the data area properties and click **OK**. The data area is mapped to the selected variable.

Using the Variable Palette

To map a data file with an existing variable using the Variable Palette either:

- ◆ Click the **Variable Palette**  button on the Standard toolbar.
- ◆ Select **View > Variable Palette** from the Menu bar.

Variables dialog box




Drag the data file into the Edit Panel. Highlight a data area to be mapped and double-click the desired variable in the **Variable Palette**. The **Data Area Properties** dialog box opens.

Make the desired changes to the data area properties and click **OK**. The data area is mapped to the selected variable.

Mapping data files with new variables

While mapping, you may find that a variable you need does not exist. If that happens, you can create one while mapping.

To map a data file with a new variable, drag the data file into the Edit Panel. Select a data area to be mapped and either:

- ◆ Right-click and select **Data Area > Map New Data** Item from the shortcut menu.
- ◆ Click the green  on the Data Mapping toolbar.



New Variable [X]

Name

Description

Type: String

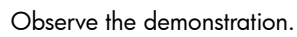
☐ Array

Design sample: Communications

Folder: Root Folder

[Finish] [Cancel]

nish



Learning check: Exploring basic data file concepts

Here are your requirements. Prior to using HP Exstream, discuss how to complete them.

REQUIREMENTS	IN HP EXSTREAM
Set up the Current Subscribers.dat file.	
Apply variables to the Current Subscribers.dat file.	



To complete the following exercises:

- Refer to the *Design Example* in the *101 Lab Guide*, if necessary.
- Make sure you are working in the **Module 4** folder.
- Use each task's corresponding step-by-step instructions if you need help.



Create a data file. This is a two-part exercise.


TASK REQUIREMENTS


TASK	REQUIREMENTS
Create a data file.	<ul style="list-style-type: none"> • Create a Customer driver data file named Current Subscribers in the Exstream > Class Exercises folder. • Make the File format delimited.
Define a data file.	<ul style="list-style-type: none"> • Use a comma for the Delimiter. • Use the C:\101 Introduction to HP Exstream\Data Files\Current Subscribers.dat file for the Test Data Source. • Use Driver for the Production Data Source.

Part 1: Create a data file

1. Expand the **Exstream > Class Exercises** folder.
2. Right-click the **Data Files** heading, and select **New Data File** from the shortcut menu.
3. Enter **Current Subscribers** in the **Name** box.
4. Enter **Current Vivanet Wireless Subscribers** in the **Description** box.
5. Select **Customer driver file** from the **File type** drop-down list.
6. Select **Delimited data file** from the **File format** drop-down list.
7. Click **Finish** to open the data file in the Property Panel.

Part 2: Define a data file

1. Click the **Basic** tab in the Property Panel.
2. Enter a comma (,) in the **Delimiter** box.
3. Click the **Test Data Source** tab.
4. Select **File** from the **Type** drop-down list.
5. Click the **File Selector**  button to select the **File to use for data mapping**.
6. Browse to the C:\101 Introduction to HP Exstream\Data Files\Current Subscribers.dat file.
7. Click **Open** to accept the data file.
8. Click the **Production Data Source** tab.
9. Select **File** from the **Type** drop-down list.
10. Enter **Driver** in the **File to use in production** box.
11. Save and close your data file in the Property Panel.




Map a data file. This is a two-part exercise.

TASK	REQUIREMENTS
Map variables to a data file.	<div>Use the Current Subscribers data file.</div> <div>Use the following variables:</div> <ul style="list-style-type: none">• 'AccountNumber'• 'CustomerFirstName'• 'CustomerLastName'• 'AddressLine1'• 'AddressLine2'• 'CustomerCity'• 'CustomerState'• 'CustomerZip'• 'StoreNumber'• 'CustomerLanguage'
Verify and test a data file.	<ul style="list-style-type: none">• View the variable layout in the Property Panel.• Test the variables.

Part 1: Map variables to a data file

VARIABLE INFORMATION

VARIABLE	START
'AccountNumber'	1
'CustomerFirstName'	2
'CustomerLastName'	3
'AddressLine1'	4
'AddressLine2'	5
'CustomerCity'	6
'CustomerState'	7
'CustomerZip'	8
'StoreNumber'	9
'CustomerLanguage'	10

1. Expand the **Data Files** heading in the **Exstream > Class Exercises** folder.
2. Drag the **Current Subscribers** data file into the Edit Panel.
3. If the **Variable Palette** is not displayed, click the **Variable Palette**  button on the Standard toolbar.
4. Double-click the first field in the Edit Panel to highlight it.
5. Double-click the 'AccountNumber' variable in the **Variable Palette**.
6. Click **OK** to accept the defaults and close the **Data Area Properties** window.
7. Repeat steps 4–6 to map the remaining variables. Use the *Variable Information* table for the remaining variables.
8. Save your data file.

Part 2: Verify and test a data file

1. Right-click in the Edit Panel and select **View > View Layout** from the shortcut menu.
2. Verify that the variables are in the layout.
3. Right-click in the Edit Panel and select **Test** from the shortcut menu.
4. Clear the **Selected only** check box.
5. Click **Go**.
6. Scroll through the **Results** to become familiar with the **Test Data**.
7. Close the **Variable Test Results** dialog box.
8. Close the Edit Panel.
9. Close the Property Panel.

Designing content flow pages

Flow pages can have specialized uses. For example, if you are creating a policy, you can create a content flow page to hold the special policy information.

When designing these pages, you have the option of using text formatting features such as rotated text boxes. You can also place page numbers so they are automatically updated as new pages are generated.

This lesson discusses the creation and formatting of content flow pages.

Objectives

After you complete this lesson, you should be able to do the following:

- ♦ Create a content flow page.
- ♦ Apply text formatting.
- ♦ Add page numbers.

Terms

Important terms used in this lesson include:

- ♦ **System Variables**—Pre-defined variables that are standard with HP Exstream software and identified by SYS_, SYSID_ (Live documents), or SYSWEB_ (WebVerse)

Additional information

For more information on this topic, refer to the following guides:

- ♦ *Create and Format Text* guide
- ♦ *HP Exstream Interface and Shortcuts Quick Reference* guide
- ♦ *Flow and Relativity* guide

Creating a content flow page

Content flow pages are similar to other flow pages in HP Exstream. In fact, you use many of the same options and features. Their main distinguishing feature is the type of information they handle. Content flow pages are used to place sections and paragraphs on a page. *(These are discussed in a separate lesson.)*

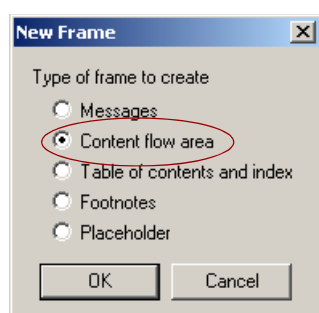
A section is a container-like object used to hold paragraphs of information, usually in a hierarchy. Paragraphs in HP Exstream are roughly equivalent to normal text paragraphs.

You do not have to select any special options on the page properties to make it a content flow page.

Content flow frames

To create a content flow frame, you must select the Content flow area radio button.

New Frame dialog box



You do not need to select any special properties from the Frame Properties dialog box.

Unlike flow frames, your frame does not have to be a specific size for the sections and paragraphs to fit. The sections and paragraphs automatically adjust their size to match that of the frame. This makes it easier to make your text fit into the space available.



Observe the demonstration.

Applying text formatting

In addition to changing fonts and paragraph styles (e.g., adding bullets), HP Exstream offers a full range of text formatting features such as changing the text color and alignment.

Text boxes also have additional features you can use to customize the look of your publications.

Text toolbars

When creating text content in HP Exstream, you can use the Font and Text formatting toolbars to apply formatting options.

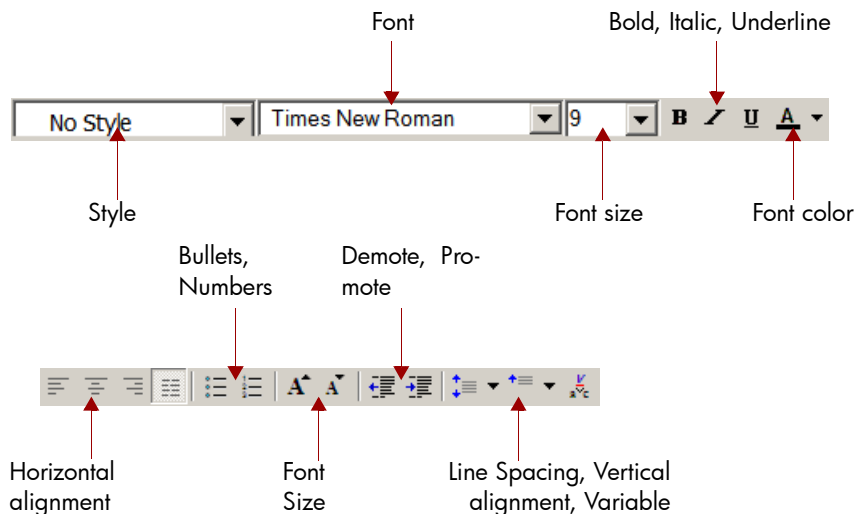
To apply formatting options to text, you can highlight the text to be formatted and either:

- ◆ Click a button on the toolbar.
- ◆ Select an option from the drop-down lists.
- ◆ The formatting is applied to the selected text.

Formatting toolbar

The Formatting toolbar in Designer lets you apply font properties. To view the Formatting toolbar, click **View > Toolbars > Formatting**.

Formatting toolbar







System defaults for text properties

The default properties for text boxes can be set by the system administrator on the System Settings. The default settings appear when a new text box is created, but a template designer can override these values for a template.

Changing object colors

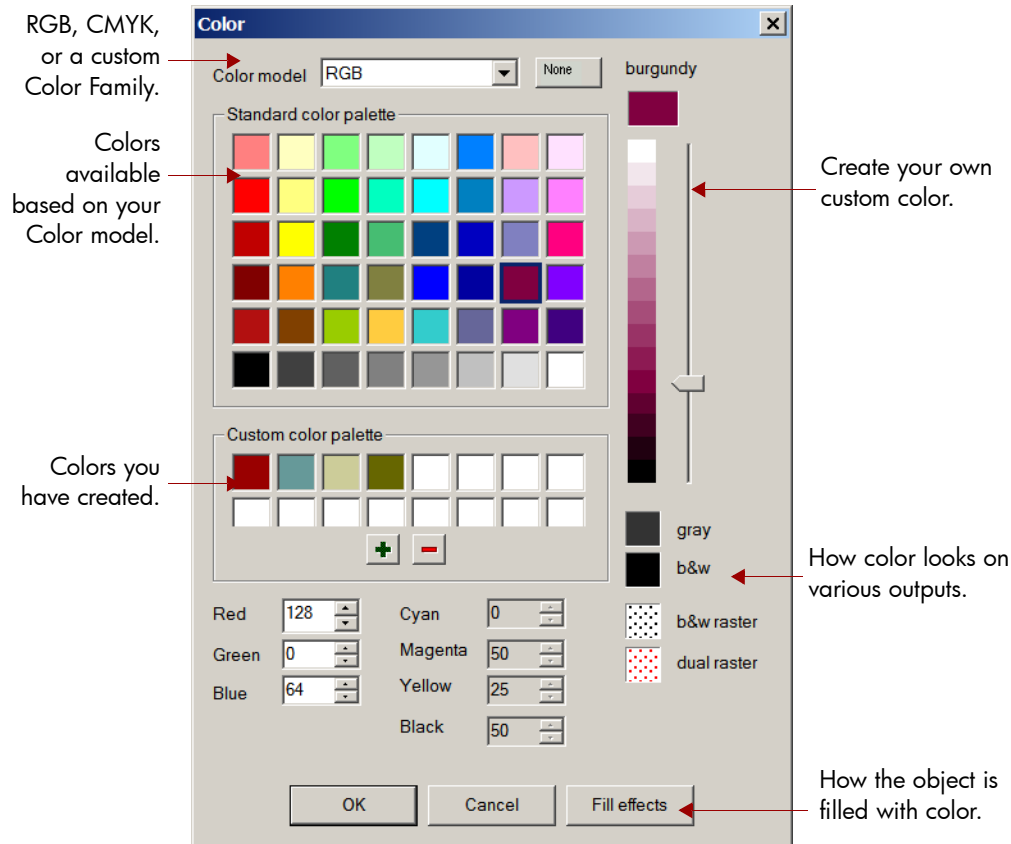
You can add color to shapes, text, and other objects by selecting one of the following interface options.

INTERFACE TO CHANGE COLOR

INTERFACE	WHERE LOCATED	CHANGES COLOR OF
	Object Properties dialog box	Fill, Shadow, Frame
	Formatting toolbar	Text
	Properties toolbar	Fill
	Properties toolbar	Line

All of these methods open the **Color** dialog box.

Color dialog box

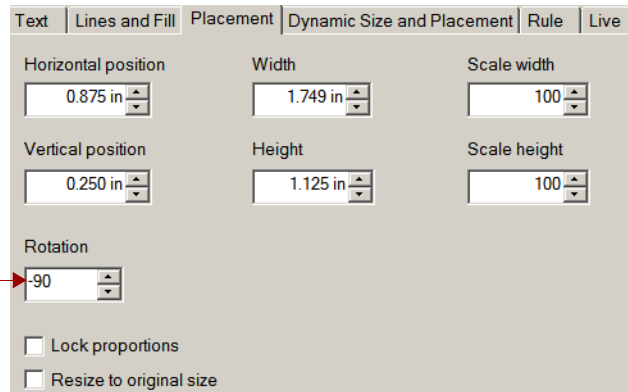


Rotating text boxes

You may not always want your text to read from left to right. For example, you may want a newsletter title to be along the left side of your page. To do this, you rotate the text box. You rotate text boxes by updating the **Text Properties** dialog box or using the rotation circle.

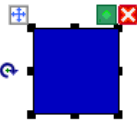
Rotation box on Placement tab

Enter the number of degrees to rotate the text box. The number can be positive (rotates to the right) or negative (rotates to the left).



Rotation circle

Click and drag the rotation circle.



If you use the rotation circle, the **Rotation** box on the **Placement** tab automatically updates.

You can nudge or rotate a text box as you do other objects.



If you rotate the text box 90 degrees your cursor also rotates 90 degrees. Your up and down arrow keys change to right and left. Your left and right keys turn to up and down.

Note:

Rotated text boxes in HP Exstream can split and flow.

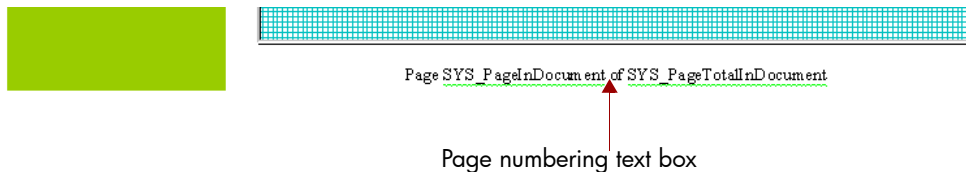
Adding page numbers

Before you finish designing a page, you may wish to add page numbers. The page numbers offer a reference for multi-page documents. You should use variables to specify the page numbers, as the order may change as your document is generated.

To add the page numbers, first create a text box and then add the following system variables:

- ♦ 'SYS_PageInDocument' —Identifies the current page number in the document.
- ♦ 'SYS_PageTotalInDocument' —Identifies the total number of pages in the document.

Page numbering text box



Observe the demonstration.

Learning check: Designing content flow pages

Here are your requirements. Prior to using HP Exstream, discuss how to complete them.

REQUIREMENTS	IN HP EXSTREAM
Create a page to hold the policy content.	
Include the customer's name on the sidebar.	
Include page number in the design.	



To complete the following exercises:


- Refer to the *Design Example* in the *101 Lab Guide*, if necessary.
- Make sure you are working in the **Module 4** folder.
- Use each task's corresponding step-by-step instructions if you need help.



Create a content flow page. This is a four-part exercise.

TASK	SPECIFICS
Create a page.	<ul style="list-style-type: none"> • Create a page named Wireless Service Policy Page in the Exstream > Class Exercises > Module 4 folder. • Use the Second Sheet page template. • Make the page flow to itself.
Create a document.	<ul style="list-style-type: none"> • Create a document named Wireless Service Policy Document.
Add a page to a document.	<ul style="list-style-type: none"> • Add the Wireless Service Policy Page to the Wireless Service Policy Document.
Create a flow area.	<ul style="list-style-type: none"> • Add a content flow area to the page in Designer. • Use the <i>Design Example</i> in the <i>Lab Guide</i> to determine the position and size.

Part 1: Create a page

1. Expand the **Exstream > Class Exercises > Module 4** folder.
2. Right-click the **Pages** heading and select **New Page** from the shortcut menu.
3. Enter **Wireless Service Policy Page** in the **Name** box.
4. Enter **Page for Vivanet's Wireless Service Policy** in the **Description** box.
5. Click **Next**.
6. Click the **Page Template**  button to select a page template.

7. Select **Second Sheet**.
8. Click **OK** to close the **Select Page Template** dialog box.
9. Click **Finish** to close the **New Page** dialog box.
10. Click the **Flow** tab.
11. Select **Copy this page** from the **Destination of overflow from this page** drop-down list.
12. Save and close the page in the Property Panel.


Part 2: Create a document

1. Right-click the **Documents** heading and select **New Document** from the shortcut menu.
2. Enter **Wireless Service Policy Document** in the **Name** box.
3. Enter **Wireless Service Policy** in the **Description** box.
4. Click **Finish** to close the **New Document** dialog box.
5. Close the Property Panel.

Part 3: Add a page to a document

1. Expand the **Documents** heading in the **Exstream > Class Exercises > Module 4** folder.
2. Expand the **Pages** heading in the **Exstream > Class Exercises > Module 4** folder.
3. Drag the **Wireless Service Policy Page** and drop it on the **Wireless Service Policy Document**.
4. Drag the **Wireless Service Policy Page** to the Edit Panel to open the page in Designer.

Part 4: Create a flow area


1. Click the **Frame**  button on the Drawing Objects toolbar.
2. Select the **Content flow area** radio button.
3. Click **OK**.
4. Click **OK** to accept the default frame properties.
5. Right-click the frame and select **Frame Properties** from the shortcut menu.
6. Click the **Placement** tab.
7. Adjust the frame's **Width** and **Height** to match the *Design Example* in the *Lab Guide*.
8. Adjust the frame's **Horizontal position** and **Vertical position** to match the *Design Example* in the *Lab Guide*.
9. Click **OK** to close the **Frame Properties** dialog box.
10. Save the page.




Apply text formatting. This is a four-part exercise.

TASK	SPECIFICS
Create and define a customer greeting text box.	<ul style="list-style-type: none"> Create a text box to match the <i>Design Example</i> in the <i>Lab Guide</i> to define its size and position.
Add text and a variable.	<ul style="list-style-type: none"> Add For you, 'CustomerFirstName' ! to the text box. Format the text using the <i>Design Example</i> in the <i>Lab Guide</i>. Center the text vertically and horizontally.
Change the text color.	<ul style="list-style-type: none"> Change the text color to Vivanet Blue 20.
Rotate the text box.	<ul style="list-style-type: none"> Rotate the text box -90 degrees.


Part 1: Create and define customer greeting text box

- Click an empty spot anywhere on the page to release any selected objects.
- Click the **Text**  button on the Drawing Objects toolbar.
- Click on a blank spot on the page to insert a text box.
- Right-click the text box and select **Text Properties** from the shortcut menu.
- Click the **Dynamic Size and Placement** tab.
- Enter **Customer Greeting** in the **Reference name** box
- Clear the **Autosize width** and **Autosize height** check boxes.
- Click the **Placement** tab.
- Adjust the text box's **Horizontal position** and **Vertical position** to match the *Design Example* in the *Lab Guide*.
- Adjust the text box's **Width** and **Height** to match the *Design Example* in the *Lab Guide*.
- Click **OK** to close the dialog box.

Part 2: Add text and variable

- Enter **For you**, in the text box and press the space bar once.
- If the **Variable Palette** is not displayed, click the **Variable Palette**  button on the Standard toolbar.
- Double-click the 'CustomerFirstName' variable.
- Close the **Variable Palette** if you prefer it closed.
- Add an exclamation point (!) after the 'CustomerFirstName' variable.
- Highlight the text and variable in the text box and format the font to match the *Design Example* in the *Lab Guide*.
- Highlight the text box content, and center horizontally and vertically.

Part 3: Change text color

1. With your text highlighted, click the down arrow portion of the **Font Color**  button on the Formatting toolbar.
2. Select **Vivanet Colors** from the **Color model** drop-down list.
3. Select **Vivanet Blue 20** from the **Standard color palette**.
4. Click **OK** to close the dialog box.

Part 4: Rotate text box


1. Right-click the text box and select **Text Properties** from the shortcut menu.
2. Click the **Placement** tab.
3. Enter **-90** in the **Rotation** box.
4. Click **OK** to close the dialog box.
5. Save your page.



Add page numbers. This is a four-part exercise.


TASK	SPECIFICS
Create a page number text box.	<ul style="list-style-type: none"> • Create a text box using the <i>Design Example</i> in the <i>Lab Guide</i> for its size and position.
Add a page number.	<ul style="list-style-type: none"> • Enter Page 'SYS_PageInDocument' of 'SYS_PageTotalInDocument' in the text box. • Format the text to match the <i>Design Example</i> in the <i>Lab Guide</i>. • Center the text horizontally.
Assemble an application.	<ul style="list-style-type: none"> • Create the Wireless Service Policy Application in the Exstream > Class Exercises > Module 4 folder. • Add the Current Subscribers data file and Wireless Service Policy Document to the application
Package for the Exstream Viewer and view the output.	<ul style="list-style-type: none"> • Enter C:\101 Introduction to HP Exstream\Wireless Service Policy.pub in the Package file box. • Package and view the output.

Part 1: Create a page number text box

1. Click the **Text**  button on the Drawing Objects toolbar.
2. Click on a blank spot on the page to insert a text box.
3. Right-click the text box and select **Text Properties** from the shortcut menu.

4. Click the **Dynamic Size and Placement** tab.
5. Enter **Page Number** in the **Reference name** box.
6. Clear the **Autosize width** and **Autosize height** check boxes.
7. Click the **Placement** tab.
8. Adjust the text box's **Horizontal position** and **Vertical position** to match the *Design Example* in the *Lab Guide*.
9. Adjust the text box's **Width** and **Height** to match the *Design Example* in the *Lab Guide*.
10. Click **OK** to close the **Text Properties** dialog box.

Part 2: Add a page number

1. Enter **Page** followed by a SPACE in the text box.
2. If the **Variable Palette** is not displayed, click the **Variable Palette**  button on the Standard toolbar.
3. Select the **Filter by type** button and select **All Types** from the list.
4. Double-click the 'SYS_PageInDocument' variable.
5. Click the text box and enter a SPACE, then enter the word, **of** followed by another SPACE.
6. Double-click the 'SYS_PageTotalInDocument' variable.
7. Close the **Variable Palette** if you prefer it closed.
8. Format the page number text box using the font to match the *Design Example* in the *Lab Guide*.
9. Center the text box content horizontally.
10. Save and close the page.

Note:

When using the **Variable Palette**, ensure **All Types**, **All Variables**, and **All Folders** are selected from the panel to view all available types of variables.

Part 3: Assemble an application

1. Expand the **Exstream > Class Exercises > Module 4** folder.
2. Right-click the **Applications** heading and select **New Application** from the shortcut menu.
3. Enter **Wireless Service Policy Application** in the **Name** box.
4. Click **Finish** to close the dialog box.
5. Close the Property Panel.
6. Expand the **Data Files** heading in the **Exstream > Class Exercises** folder.
7. Expand the **Applications** heading in the **Exstream > Class Exercises > Module 4** folder.
8. Drag the **Current Subscribers** data file to the **Wireless Service Policy Application**.
9. Drag the **Wireless Service Policy Document** to the **Wireless Service Policy Application**.

Part 4: Package for the Exstream Viewer and view the output

1. Right-click the application and select **Package Application** from the shortcut menu.
2. Enter **C:\101 Introduction to HP Exstream\Wireless Service Policy.pub** in the **Package file** box.
3. Click **OK**.
4. Browse through the message file.
5. Browse through the output.



Answer the following questions.

1. How many customers were processed? How many pages?
2. Is each customer greeting appearing in the correct location?
3. Is the page number correctly positioned?

Applying sections and paragraphs

When creating long documents that are mainly composed of text, paragraphs and sections provide you with the ability to manage and customized content based on the conditions you have set.

This lesson discusses paragraphs and sections and how they can be used to create long, hierarchical documents.

Objectives

After you complete this lesson, you should be able to do the following:

- ♦ Create and define paragraphs and sections in Design Manager.
- ♦ Add a paragraph to a section.
- ♦ Add a section to a document.
- ♦ Create and define paragraphs and sections in Designer.

Terms

Important terms used in this lesson include:

- ♦ **Paragraph**—A block of communication. Paragraphs are stored under the **Paragraphs** heading in the Library.
- ♦ **Section**—A container that holds paragraphs and other sections. Sections are stored under the **Sections** heading in the Library.

Additional information

For more information on this topic, refer to the *Sections and Paragraphs* guide.


Creating and defining paragraphs and sections in Design Manager

You can create paragraphs and sections in both Design Manager and Designer. In Design Manager, you can create the section or paragraph and define its properties. Designer is discussed later in this course.

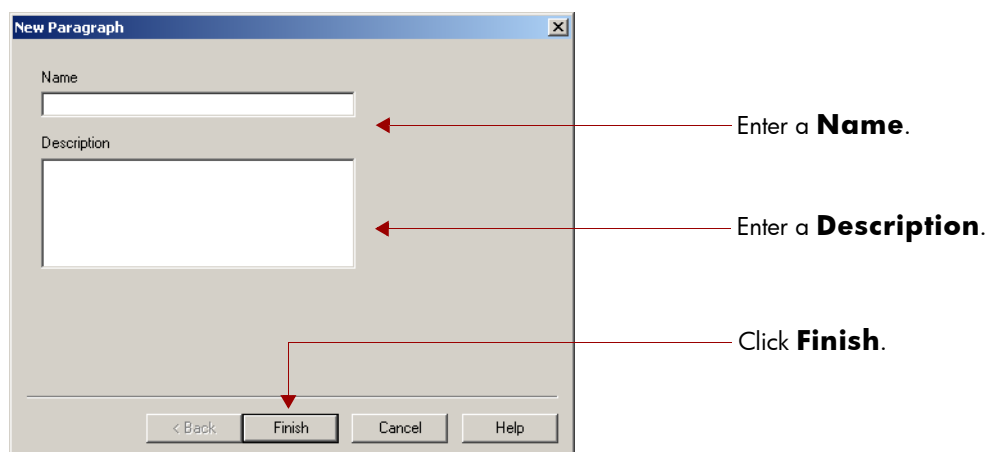
Creating paragraphs in Design Manager

When working with text content in HP Exstream, you can create paragraph objects. These paragraphs are usually a block of text equivalent to a paragraph in a document.

To create a new paragraph in Design Manager, you can either:

- ◆ Highlight the **Paragraphs** heading in the desired folder and click .
- ◆ Right-click the **Paragraphs** heading in the desired folder and select **New Paragraph** from the shortcut menu.

New Paragraph dialog box

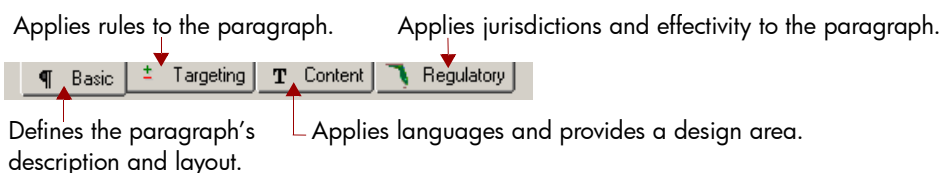


When you click the **Finish** button, the paragraph is added to the Library and displayed in the Property Panel for you to define.

Defining paragraph properties

When a paragraph is in the Property Panel, it is defined using the following tabs.

Paragraph properties




Note:

The **Regulatory** tab appears only when enabled in the **System Settings**.

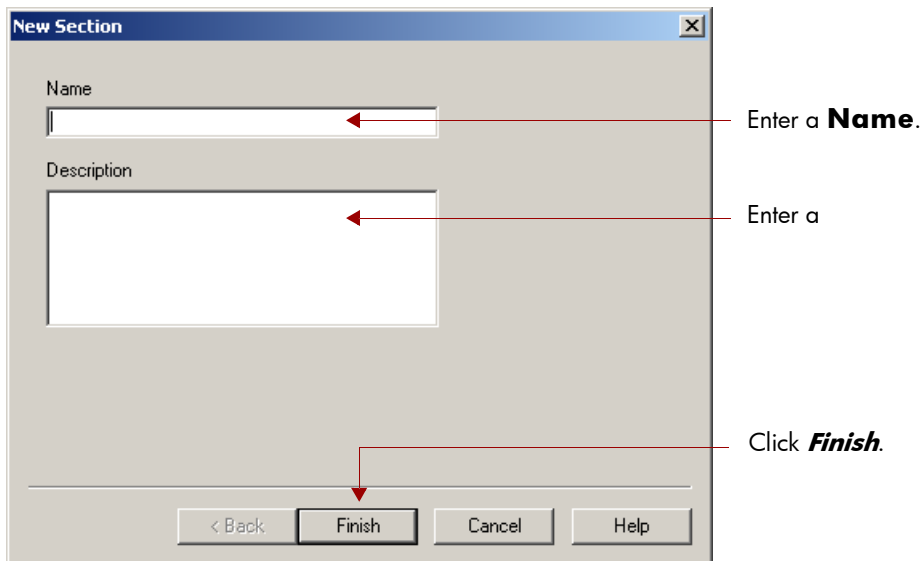
Creating sections in Design Manager

A section is an object used to contain paragraphs and other sections.

To create a new section in Design Manager, you can either:

- ♦ Highlight the **Sections** heading in the desired folder and click .
- ♦ Right-click the **Sections** heading in the desired folder and select **New Section** from the shortcut menu.

New Section dialog box

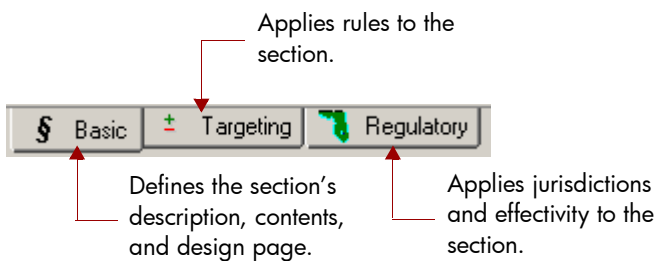


When you click the **Finish** button, the section is added to the Library and displayed in the Property Panel for you to define.

Defining section properties

Sections are defined in the Design Manager Property Panel using the following tabs:

Section tabs in the Property Panel



Using the Basic tab with paragraphs and sections

The **Basic** tab lets you add sections and paragraphs to your section.

Basic tab

The screenshot shows the 'Basic' tab of a policy creation interface. At the top, there are three tabs: 'Basic' (selected), 'Targeting', and 'Regulatory'. Below the tabs, the 'Description' field contains the text 'Vivanet's Consumer Code'. To the right, the 'Design Page' dropdown is set to 'Wireless Service Policy Page'. Below this, the 'Target Frame Type' dropdown is set to 'Flow frames only'. The 'Target Frame Message Type' dropdown is set to 'No Message Type'. The 'Paragraph flow' dropdown is set to 'Flow to specified target'. Below these, the 'No Flow Target' dropdown is set to 'No Flow Target'. On the left, the 'Section Contents' list shows three items: 'Consumer Code Paragraph', 'Rates and Terms Section', and 'Consumer Services Section'. At the bottom left, there are four buttons: a green plus sign, a minus sign, an up arrow, and a down arrow.

It also lets you choose a page to use when designing your section. This is called the **Design Page**. If a flow frame is present on the design page, the section is flowed and viewed with the width and number of columns of that frame. If no flow frame is present, the page width is used.







Observe the demonstration.

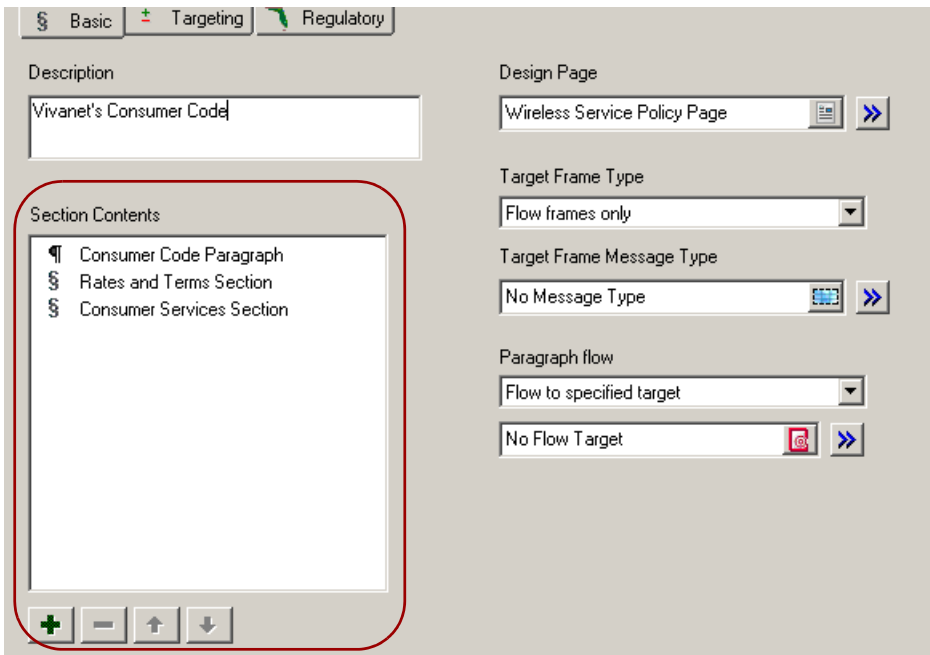
Adding sections and paragraphs to a section

Sections can contain both paragraphs and nested sections. You nest a section to create a hierarchy of information. For example, the highest level section could be considered a Level 1 section, while those under it are considered a Level 2. This is very useful when creating insurance policies, which often have dependencies.

To add a paragraph or section to a section, you can either:

- ♦ Select the paragraph or section to be added and drag it to the destination section.
- ♦ Open the destination section in the Property Panel and use the **Section Contents** area.
 - Use  to add a new paragraph or section to a section.
 - Use  to remove a paragraph or section from the section.
 - Use  to move a paragraph or section up one level in the list.
 - Use  to move the paragraph or section down one level in the list.

Section Contents area in the Property Panel



The screenshot shows the HP Exstream Property Panel with three tabs: Basic, Targeting, and Regulatory. The Basic tab is selected. The Description field contains "Vivanet's Consumer Code". The Design Page field contains "Wireless Service Policy Page". The Target Frame Type dropdown is set to "Flow frames only". The Target Frame Message Type dropdown is set to "No Message Type". The Paragraph flow dropdown is set to "Flow to specified target". The No Flow Target field is empty. The Section Contents area is highlighted with a red rounded rectangle and contains a list of items: "Consumer Code Paragraph", "Rates and Terms Section", and "Consumer Services Section". Below the list are four buttons: a plus sign, a minus sign, an up arrow, and a down arrow.

Note:

The section displays the paragraphs in the order shown in the Library.

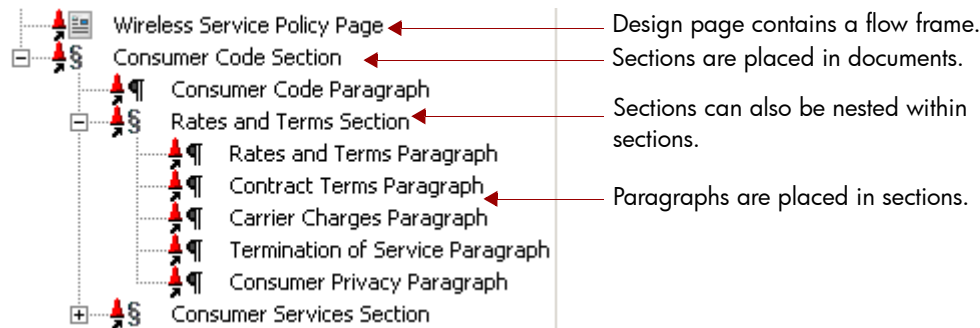


Observe the demonstration.

Adding sections to a document

Sections, paragraphs, and design pages are combined within a document in the Library.

Object relationships in the Library

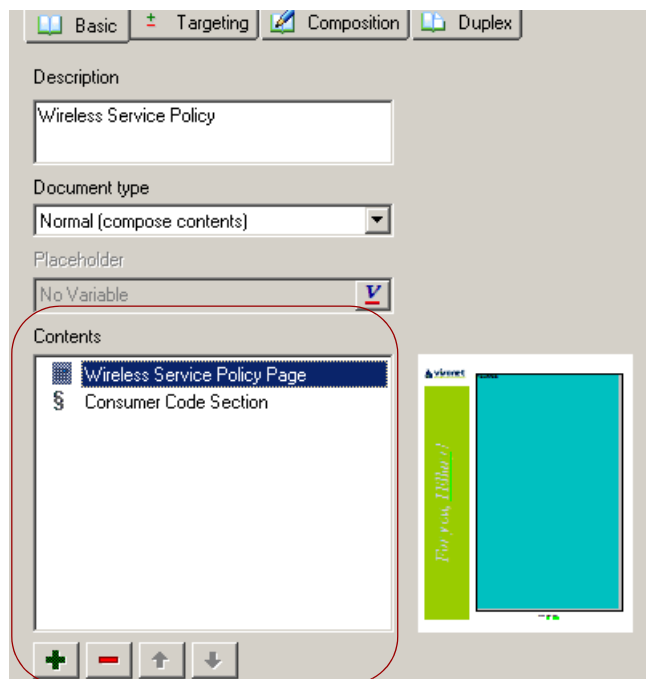


Sections are added to documents. You cannot add a paragraph to a document. Paragraphs and sections are composed on the page at engine run-time.

To add a section to a document, you can either:

- ♦ Select the section to be added and drag it to the document.
- ♦ Open the document in the Property Panel and use the **Contents** area.

Contents area in the Property Panel



A reference to the section is placed under the document in the Library.




Observe the demonstration.

Creating and defining paragraphs and sections in Designer

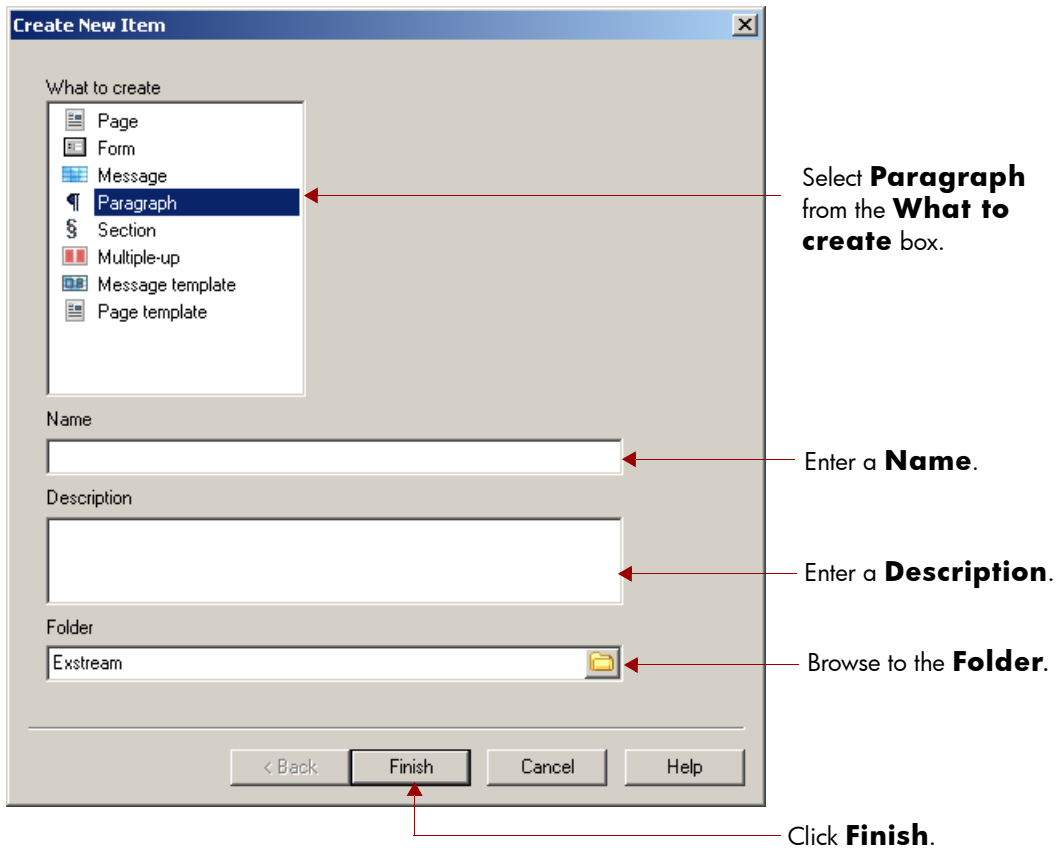
You can easily create paragraphs and sections in Designer. When you create a section or paragraph in Designer, you can immediately format it and see it in context.

Creating paragraphs in Designer

To create a paragraph in Designer, you can either:

- ♦ Click  from the Standard toolbar.
- ♦ From the Menu bar, click **File > New**.


Create New Item dialog box



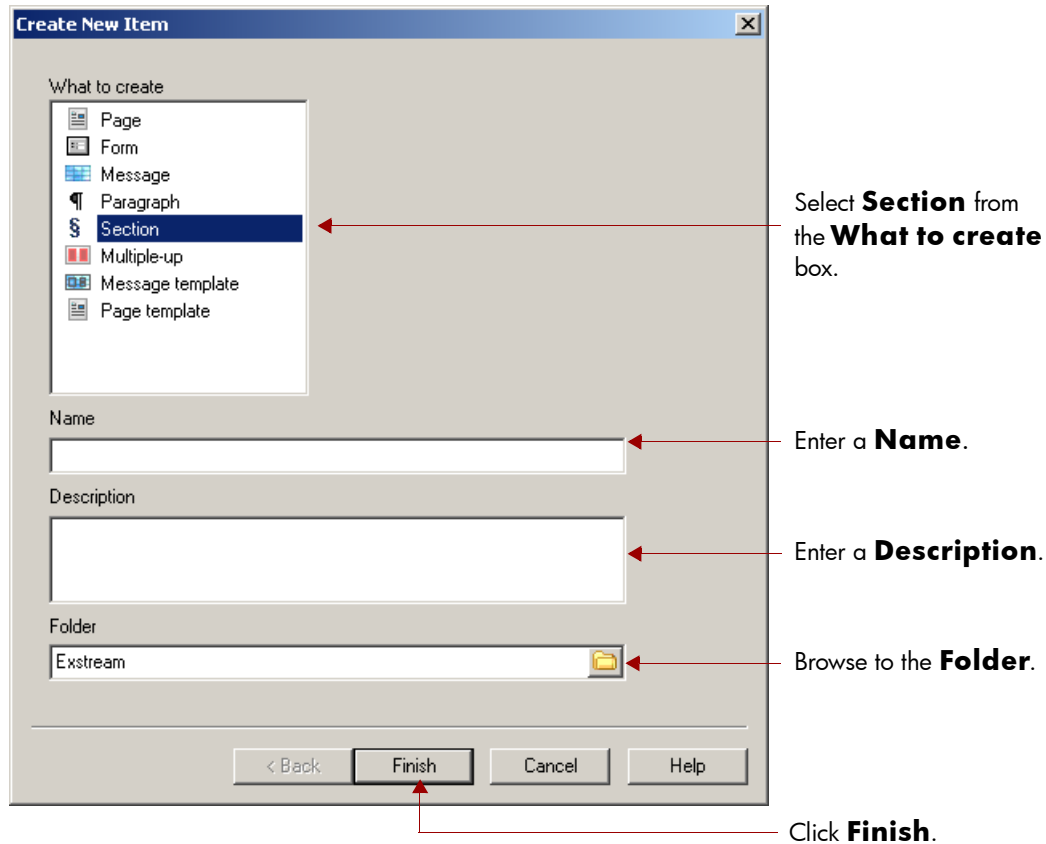
When you click **Finish**, the paragraph opens in Designer.

Creating sections in Designer

To create a section in Designer, you can either:

- ◆ Click  from the Standard toolbar.
- ◆ From the Menu bar, click **File > New**.

Create New Item dialog box



When you click **Finish**, the section opens in Designer for you to use.

Viewing paragraphs and sections in Designer

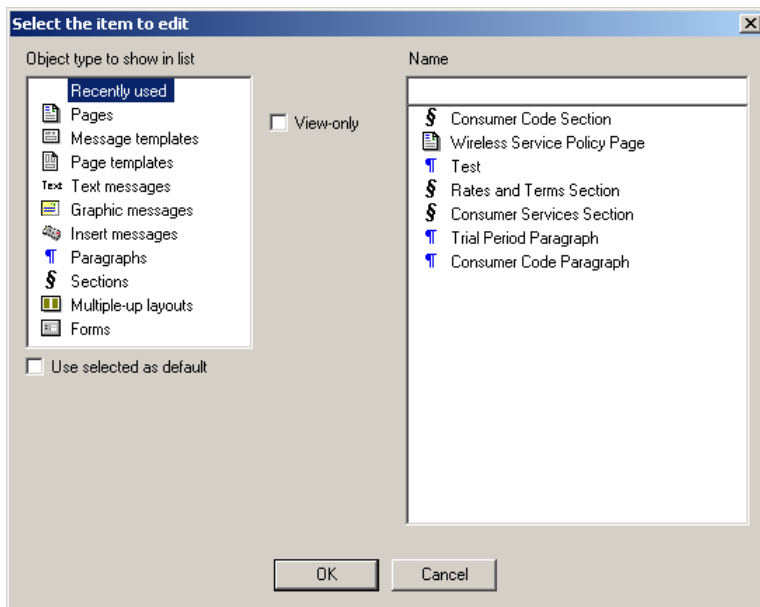
You have several viewing options available which let you display and work with paragraphs and sections in Designer.

Document View

The Document View option lets you view all paragraphs and sections together as they would appear on a page. Each section and paragraph is separated by a dashed line to let you design and edit each object in context.

To view a section or paragraph using **Document View**, click  on the Menu bar. The **Select the item to edit** dialog box opens.

Select the item to edit dialog box



- ♦ To open a paragraph, select **Paragraphs** from the **Object type to show in list** area and select the desired paragraph from the **Name** area.
- ♦ To open a section, select **Sections** from the **Object type to show in list** area and select the desired section from the **Name** area.

Sections containing paragraphs in Document View

Section Icon → § ¶ **Disclose rates and terms of service to consumers.**

Separator

Paragraph Icon → § ¶ **Provide contract terms to customers and confirm changes in service.**

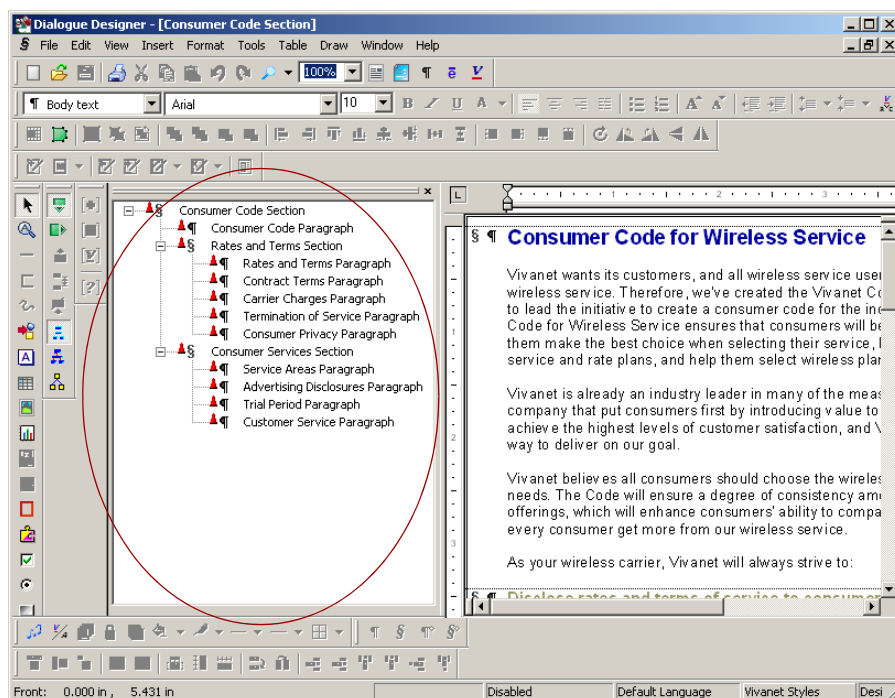
When a customer initiates service with a Vivanet or agrees to a change in service whereby the customer is bound to a contract extension, Vivanet will provide or confirm the material terms and conditions of service with the subscriber.

Outline Viewer

The Outline Viewer lets you see the hierarchy of objects within a page, message, or section. The Outline Viewer area appears on the left side of your Designer window as an object tree. You can change the order of objects using this option.

To enable the Outline Viewer, click **View > Outline Viewer** from the Menu bar. The Outline Viewer area appears as a docked bar in the Designer window.

Outline Viewer in Designer



Note:

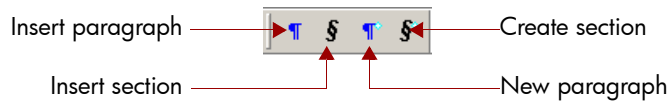
When the Outline Viewer is visible, an asterisk indicates when a section or paragraph has changed but has not been saved. The object you are working with is displayed in bold.

Section Edit toolbar

In Designer, the Section Edit toolbar lets you create new paragraphs and sections or insert existing paragraphs and sections into a section.

To view the Section Edit toolbar, you can click **View > Toolbars > Section Edit** from the Menu bar.

Section Edit toolbar



Note:

A paragraph of text in a text box or table cell is different than a paragraph object used with Paragraphs and Sections.



Observe the demonstration.

Learning check: Applying sections and paragraphs

Here are your requirements. Prior to using HP Exstream, discuss how to complete them.

REQUIREMENTS	IN HP EXSTREAM
Create a series of files, consisting of titles and information, for the policy content.	
Include information presented in a hierarchal order.	
Include the policy content in the customer documents.	



To complete the following exercises:

- Refer to the *Design Example* in the *101 Lab Guide*, if necessary.
- Make sure you are working in the **Module 4** folder.
- Use each task's corresponding step-by-step instructions if you need help.



Create and define paragraphs and sections in Design Manager. This is a two-part exercise.



TASK REQUIREMENTS

TASK	SPECIFICS
Create a paragraph.	Create the Consumer Code Paragraph in the Exstream > Class Exercises > Module 4 folder.
Create a section.	<ul style="list-style-type: none"> • Create the Consumer Code Section in the Exstream > Class Exercises > Module 4 folder. • Use Wireless Service Policy Page for the Design Page.

Part 1: Create a paragraph

1. Expand the **Exstream > Class Exercises > Module 4** folder.
2. Right-click the **Paragraphs** heading and select **New Paragraph** from the shortcut menu.
3. Enter **Consumer Code Paragraph** in the **Name** box.
4. Enter **Introduction to Vivanet's Consumer Code** in the **Description** box.
5. Click **Finish** to close the **New Paragraph** dialog box.
6. Close the **Property Panel** to accept the default paragraph properties.

Part 2: Create a section

- 1. Right-click the **Sections** heading and select **New Section** from the shortcut menu.
- 2. Enter **Consumer Code Section** in the **Name** box.
- 3. Enter **Vivanet's Consumer Code** in the **Description** box.
- 4. Click **Finish** to close the **New Section** dialog box.
- 5. Click the **Basic** tab.
- 6. In the **Design Page** box, click the **Page**  button.
- 7. Click the **Folder**  button.
- 8. Select the **Exstream > Class Exercises > Module 4** folder.
- 9. Click **OK**.
- 10. Select the **Wireless Service Policy Page**.
- 11. Click **OK** to close the **Select Page** dialog box.
- 12. Save and close the section.



Add a paragraph to a section.

TASK REQUIREMENTS

TASK	SPECIFICS
Add a paragraph to a section.	Add the Consumer Code Paragraph to the Consumer Code Section .

- 1. Expand the **Sections** heading in the **Exstream > Class Exercises > Module 4** folder.
- 2. Expand the **Paragraphs** heading in the **Exstream > Class Exercises > Module 4** folder.
- 3. Drag the **Consumer Code Paragraph** and drop it on the **Consumer Code Section**.



Add a section to a document. This is a three-part exercise.

TASK REQUIREMENTS


TASK	SPECIFICS
Add a section to a document.	Add the Consumer Code Section to the Wireless Service Policy Document .
Import text and format a paragraph.	<ul style="list-style-type: none"> Open the Consumer Code Paragraph in Designer and import text from C:\101 Introduction to HP Exstream\Text Files\ConsumerCode.txt. Format the first line to match the <i>Design Example</i> in the <i>Lab Guide</i>.
Package for the Exstream Viewer and view the output.	Package and view the output.

Part 1: Add a section to a document

1. Expand the **Documents** heading in the **Exstream > Class Exercises > Module 4** folder.
2. Drag the **Consumer Code Section** and drop it on the **Wireless Service Policy Document**.

Part 2: Import text and format a paragraph

The cursor is blinking when the paragraph opens in Designer because a paragraph object behaves like a text box.

1. Drag the **Consumer Code Paragraph** to the Edit Panel.
2. Right-click the text box and select **Insert > Import Text File** from the shortcut menu.
3. Browse to **C:\101 Introduction to HP Exstream\Text Files\ConsumerCode.txt**.
4. Click **Open** to select the file and close the dialog box.
5. Highlight the first line of text.
6. Apply the font to match the *Design Example* in the *Lab Guide*.
7. Click the **Font Color**  button on the Formatting toolbar.
8. Select **Vivanet Colors** from the **Color model** drop-down list.
9. Select **Vivanet Blue** from the **Standard color palette**.
10. Click **OK** to close the dialog box.
11. Save your changes and close Designer.

Part 3: Package for the Exstream Viewer and view the output

1. Package the application and review the output in the Exstream Viewer.



Answer the following questions.

1. Does the Consumer Code match the *Design Example* in the *Lab Guide*?
2. Is each customer getting a customized page?
3. The **Consumer Code** paragraph has more than one actual paragraph. What logic would you use when breaking long text into HP Exstream paragraphs?



Create and define paragraphs and sections in Designer. This is an eight-part exercise.


TASK REQUIREMENTS

TASK	SPECIFICS
Create a section.	<ul style="list-style-type: none"> • Create the Rates and Terms Section in the Consumer Code Section. • Place the Rates and Terms Section in the Exstream > Class Exercises > Module 4 folder.
Insert existing paragraphs.	Insert the paragraphs listed in the <i>Design Example</i> in the <i>Lab Guide</i> .
Package for the Exstream Viewer and view the output.	Package and view the output.
Create Consumer Services Paragraphs.	Create the Consumer Services paragraphs in Design Manager to match the <i>Design Example</i> in the <i>Lab Guide</i> .
Create Consumer Services Section.	Create the Consumer Services Section .
Add paragraphs to the section.	Add the Consumer Services paragraphs to the Consumer Services Section .
Add a section to a section.	Add the Consumer Services Section to the Consumer Code Section under the Rates and Terms section.
Format the Consumer Services Paragraphs.	Format the Consumer Services Section paragraphs to match the <i>Design Example</i> in the <i>Lab Guide</i> .


Part 1: Create a section

1. Drag the **Consumer Code Section** to the Edit Panel.

Notice that the ruler is set to a width of 5.75 inches, the width of the frame on the design page. You are able to see the paragraphs as they will appear in the output.

2. Right-click **Consumer Code Section** in the Outline Viewer and select **New Section** from the shortcut menu.
3. Enter **Rates and Terms Section** in the **Name** box.
4. Click the **Folder**  button.
5. Browse to the **Exstream > Class Exercises > Module 4** folder.
6. Click **OK** to close the **Folders** dialog box.
7. Click **Finish** to close the **Insert New Section** dialog box.

Part 2: Insert existing paragraphs

1. Right-click **Rates and Terms Section** in the Outline Viewer.
2. Select **Insert Paragraph** from the shortcut menu.
3. Click the **Folder**  button.
4. Browse to the **Exstream > Class Exercises > Module 4** folder.
5. Click **OK**.
6. Click to highlight **Rates and Terms Paragraph** in the **Select Paragraph** dialog box.
7. Click **OK** to close the dialog box.
8. Repeat steps 1–7 to insert the remaining paragraphs into the **Rates and Terms** section:
 - Contract Terms Paragraph
 - Carrier Charges Paragraph
 - Termination of Service Paragraph
 - Consumer Privacy Paragraph
9. Save and close Designer.


Part 3: Package for the Exstream Viewer and view the output

1. Package the application and review the output in the Exstream Viewer.
2. Close your output.

Part 4: Create Consumer Services Paragraphs

Make sure you are in Design Manager. Use the information from the *Consumer Services Paragraphs* table to complete the steps below.

1. Right-click the **Paragraphs** heading and select **New Paragraph** from the shortcut menu.
2. Enter **Service Areas Paragraph** in the **Name** box.
3. Click **Finish** to close the **New Paragraph** dialog box.

4. Click the **Content** tab.
5. Click the **File Import**  button beneath the large white content box on the right.
6. Browse to `C:\101 Introduction to HP Exstream\Text Files\ServiceAreas.txt`.
7. Click **Open** to select the file and close the dialog box.
8. Save and close the Property Panel.
9. Repeat steps 1–9 to create the other **Consumer Services** paragraphs using the Consumer Services Paragraphs table for the remaining information.

CONSUMER SERVICES PARAGRAPHS

PARAGRAPHS	TEXT FILE
Advertising Disclosures Paragraph	<code>AdvertisingDisclosures.txt</code>
Trial Period Paragraph	<code>TrialPeriod.txt</code>
Customer Service Paragraph	<code>CustomerService.txt</code>

Part 5: Create the Consumer Services section

1. Right-click the **Sections** heading and select **New Section** from the shortcut menu.
2. Enter **Consumer Services Section** in the **Name** box.
3. Enter **Vivanet's Consumer Services** in the **Description** box.
4. Click **Finish** to close the **New Section** dialog box.

Part 6: Add paragraphs to the section

1. Click the **Basic** tab.
2. Drag the **Consumer Services** paragraphs and drop them on the **Consumer Services Section**. Use the *Design Example* in the *Lab Guide* for the correct order.
3. Save and close the Property Panel.

Part 7: Add a section to a section

1. Expand the **Consumer Code Section**.
2. Drag the **Consumer Services Section** and drop it beneath the **Rates and Terms Section** within the **Consumer Code Section**.



Answer the following questions.

Sections and paragraphs offer much flexibility for managing text. For example, you may work with individual paragraphs, or open a section or subsection and work with multiple paragraphs at the same time.

1. What are the advantages of each method of working with paragraphs?
2. Which method will you use to format the Consumer Service paragraphs? Why?

Part 8: Format the Consumer Services Paragraphs

1. Drag the **Consumer Services Section** to the Edit Panel.
2. Format the first line of each **Consumer Service** paragraph to match the *Design Example* in the *Lab Guide*.
3. Save your work and close Designer.
4. Package and run the application.
5. Review the output.
6. Correct any problems.
7. Repeat steps 4, 5, and 6 until the output matches the *Design Example* in the *Lab Guide*.



Answer the following question.

1. You could have inserted the additional paragraphs directly into the Consumer Code section. What are the advantages of grouping them in the Rates and Terms section?

Applying style sheets and styles

Depending on your company, you may need to enforce corporate standards for document appearance. HP Exstream lets you do this easily by providing styles and style sheets, available if you have the Publication Support module.

This lesson discusses styles and style sheets.

Objectives

After you complete this lesson, you should be able to do the following:

- ♦ Add a style sheet to a page.
- ♦ Apply styles.

Terms

Important terms used in this lesson include:

- ♦ **Style**—A characteristic formatting that affects the appearance of documents. Styles are stored under **Environment > Design > Styles** in the Library.
- ♦ **Style sheet**—A collection of styles used to standardize the appearance of text across communications. Style sheets are stored under **Environment > Design > Style Sheets** in the Library.

Additional information

For more information on this topic, refer to the *Publication Support* guide.

Modules

In addition to HP Exstream, we will discuss the Publication Support module in this lesson.

Adding style sheets to a page

A style sheet is a collection of paragraph and text styles used to create consistent content on a page. Once a style sheet is applied, all of the styles assigned to that style sheet are available for use on the page.

By creating and using a default style sheet, styles can be used along with font administration to enforce corporate standards for document appearance.



View the demonstration.

Selecting style sheets

You can select a style sheet for:

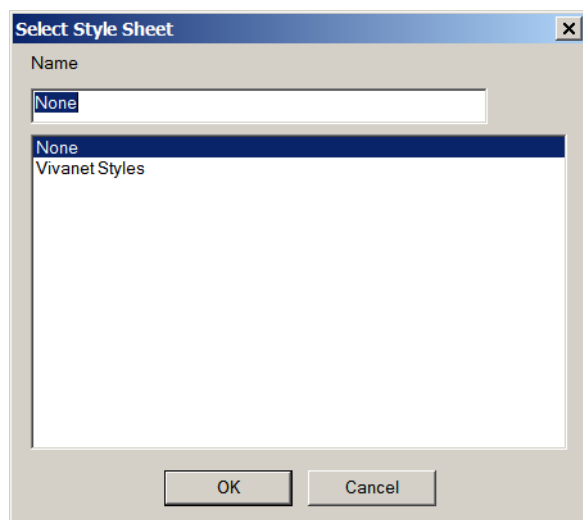
- ♦ Pages
- ♦ Messages
- ♦ Paragraphs
- ♦ Page Templates
- ♦ Graphic Message Templates

Note:

When a section containing paragraphs is viewed in Designer with Document View, only the style sheet for the topmost section is applied.

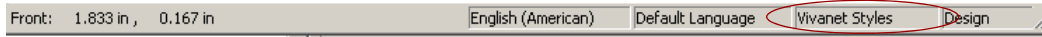
To select a style sheet in Designer, select **Format > Style > Select Style Sheet** from the Menu bar.

Select Style Sheet dialog box



Select the desired style sheet and click **OK**. All paragraph and text styles available in the style sheet can now be applied. The Status bar displays the name of the style sheet applied to the object. If the area is raised, the style sheet is enforced.

Status bar



Applying styles

In HP Exstream, a style is an object that specifies the presentation or appearance of a document across any number of applications.

There are two types of styles available in HP Exstream:

- ♦ **Text**—Applied to selected text
- ♦ **Paragraph**—Applied to entire paragraphs

To apply styles, text must already be present. You cannot apply styles if a style is applied before text is entered. When you apply a particular style, text changes to a defined format.



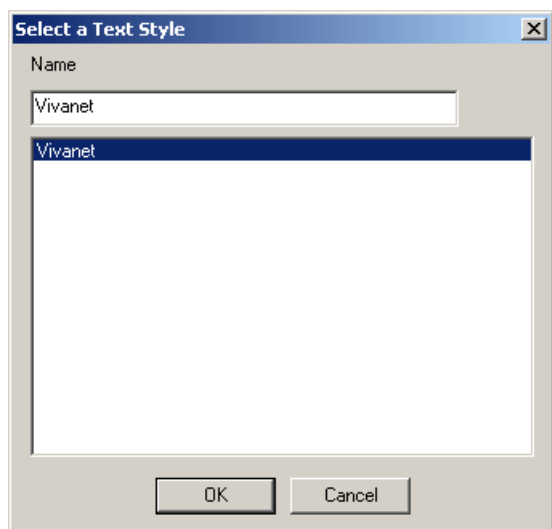
Text styles cannot overlap. Text can only adhere to one style at a time. Remove any existing styles before applying a new style.

Applying a text style

To apply a text style you can either:

- ♦ Highlight and right-click the text and select **Style > Text Style** from the shortcut menu.
- ♦ Highlight the text and select **Format > Style > Select Text Style** from the Menu bar.

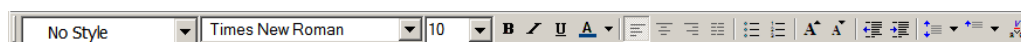
Select a Text Style dialog box



Select the desired style and click **OK**. The highlighted text changes to reflect the text style.

You can also use the Formatting toolbar. Select the text style from the **Style** drop-down list. Text styles are marked with a **T** symbol.

Formatting toolbar

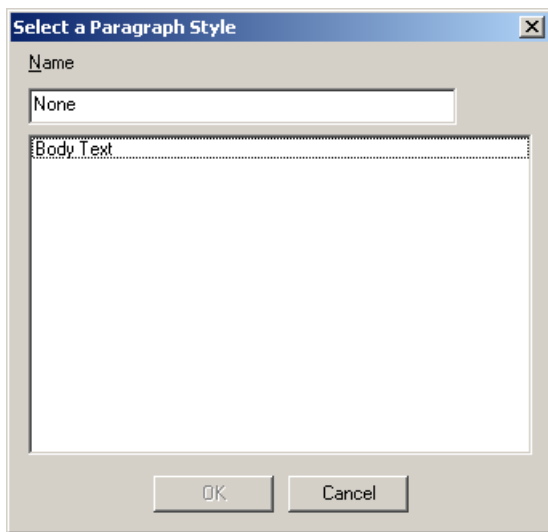


Applying a paragraph style

To apply a paragraph style, either:

- ◆ Right-click the desired paragraph and select **Style > Paragraph Style** from the shortcut menu.
- ◆ Place your cursor in the desired paragraph and click **Format > Style > Select Paragraph Style** from the Menu bar.

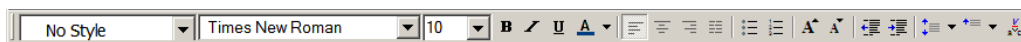
Select a Paragraph Style dialog box



Select the desired style and click **OK**. The text in the paragraph changes to reflect the paragraph style.

You can also use the Formatting toolbar. Select the paragraph style from the **Style** drop-down list. Paragraph styles are marked with a ¶ symbol.

Formatting toolbar



Learning check: Applying style sheets and styles

Here are your requirements. Prior to using HP Exstream, discuss how to complete them.

REQUIREMENTS	IN HP EXSTREAM
Enforce marketing standards.	



- To complete the following exercises:
- Refer to the *Design Example* in the *101 Lab Guide*, if necessary.
 - Make sure you are working in the **Module 4** folder.
 - Use each task's corresponding step-by-step instructions if you need help.



Add a style sheet to a page.

TASK REQUIREMENTS	
TASK	SPECIFICS
Add a style sheet to a page.	<ul style="list-style-type: none">• Open the Wireless Service Policy Page in Designer.• Apply the Vivanet Styles style sheet.

1. Expand the **Exstream > Class Exercises > Module 4 > Pages** heading.
2. Drag the **Wireless Service Policy Page** to the Edit Panel.
3. Click **Format > Style > Select Style Sheet** from the Menu bar.
4. Select **Vivanet Styles**.
5. Click **OK**.
6. Save and close the page, leaving Designer open.




Apply styles. This is a three-part exercise.

TASK REQUIREMENTS

TASK	SPECIFICS
Open a section in Designer.	<ul style="list-style-type: none"> Open the Consumer Code Section in Designer.
Apply styles to text.	<ul style="list-style-type: none"> Apply the Body text style to all the text. Apply the Main heading style to the top heading. Apply the Sub heading style to the remaining headings.
Package for the Exstream Viewer and view the output.	<ul style="list-style-type: none"> Package and view the output.

Part 1: Open a section in Designer

1. Click the **Folder**  button on the Standard toolbar.
2. Select **Sections** from the **Object type to show in list** box.
3. Browse to **Exstream > Class Exercises > Module 4**.
4. Click **OK**.
5. Select the **Consumer Code Section**.
6. Click **OK**.

Part 2: Apply styles to text

1. Highlight all the text.
2. Select **Body text** from the **Style** drop-down list on the Formatting toolbar.
3. Save your changes.
4. Click an empty spot to release the selected text.
5. Highlight the first heading and apply **Main heading** from the **Style** drop-down list.
6. Highlight each of the remaining headings and apply **Sub heading** from the **Style** drop-down list.
7. Save and close Designer.

Part 3: Package for the Exstream Viewer and view the output

1. Package the application and review the output in the Exstream Viewer.



Answer the following questions.

1. How has the output changed from the previous run?

2. What are your options to change styles once they have been applied?

Module 5: Creating flyers and forms

Using rules, language layers, and shapes

HP Exstream lets you create separate output for different customers. Using rules, you can send output only to customers that meet specified criteria.

HP Exstream also lets you create content on a default language layer. This is useful for graphic content that is independent of the customer language. You can create and enhance graphic content by using shapes, lines, and images as design objects.

This lesson discusses how to create simple rules, apply default language layers, and create shapes and lines.

Objectives

After you complete this lesson, you should be able to do the following:

- ♦ Create a simple rule.
- ♦ Apply a default language layer.
- ♦ Create and define a shape.
- ♦ Create and define a line.

Terms

Important terms used in this lesson include:

- ♦ **Language layer**—A virtual layer that lets you create content for multiple languages in a single message or page. The engine determines which layer to include for each customer according to mapped customer data (such as language preference).
- ♦ **Logic**—The code used to create a formula, function, rule, or (in WebVerse) a process.
- ♦ **Rule**—A set of conditions used to control the inclusion or exclusion of an object. Rules are stored under the **Rules** heading in the Library.

Additional information

For more information on this topic, refer to the following guides:

- ♦ *Formulas, Functions, and Rules* guide
- ♦ *Design Objects* guide

Creating a simple rule

In HP Exstream, you can use rules to customize and personalize output for each customer. Using rules, you can create comparative statements to include or exclude an object from an application based on customer information. When a particular customer meets all conditions in the comparative statement, the object either appears or does not appear in their communication, depending on the rule.

For example, you can put rules on a page so only customers that meet certain criteria receive the communication.

There are two types of rules in HP Exstream:

RULE TYPES AND DESCRIPTIONS

RULE	DESCRIPTION
Named rule	<ul style="list-style-type: none">• Also known as a Library rule• Can be applied to multiple objects• Are saved for reuse
Unnamed rule	<ul style="list-style-type: none">• Specific to the objects they are applied to• Created when defining object properties

Named rules appear under the **Rules** heading in the Library. They are useful if you need to use the same conditions for multiple objects. If you only need to include or exclude a specific object, use an unnamed rule.

Simple and complex rules

A simple rule uses conditional statements to determine whether an object is included. Complex rules use Visual Basic-style programming to determine inclusion.



You can create the instructions for rules in the Logic Designer program or by using the **Rule** dialog box.

Creating rules

To create a rule on an existing object, either:

- ♦ In Designer, right-click the object and select **Object Properties** from the shortcut menu. Select the **Rule** tab.
- ♦ In Design Manager, drag the object into the Property Panel and select the **Targeting** tab. Click in the **Targeting Rule** box to open the **Rule** dialog box.

To create a Library rule:

- ♦ Right-click the **Rules** heading in the Library and select **New Rule** from the shortcut menu.
- ♦ Highlight the **Rules** heading and click .
- ♦ Click  in the Rule dialog box.

Give a **Name**, an optional **Description**, and click **Finish**. Click in the **Logic** box to open the **Rule** dialog box.

Rule dialog box

The **Rule** dialog box lets you create and set logic for simple rules. Logic is the code used to create a formula, function, rule or (in WebVerse) a process.

Rule dialog box

Specify a variable to base your selection criteria.

Compare your choice in the first column to your choice in the third column.

Open the Code panel to create a complex rule.

Save the rule in the Library.

Specify a variable or enter, in quotes, a fixed string, amount, date, or number.

Display advanced options.

Add more conditions.

Include the object if all conditions are met.

You can create a rule with up to 250 conditions. However, if you need a mix of “and” and “or” statements or more than 250 conditions, you must use the **Code** panel.



Since anything you enter that is not in quotes is considered the name of a variable, be certain you do add single or double quotes on either side of a string.

Saving a rule

Click **OK** when finished setting the logic for your rule. If you opened an object to create this rule, then HP Exstream saves the information as an unnamed rule that applies only to this object.

If you created a rule on an object, but you want to save your logic as a Library rule so it can be re-used for other objects, click **+**. In the **Folders** dialog box, identify where you want the rule to be stored in the Library. Then give a **Name** for this rule, an optional **Description**, and click **Finish**. The Library rule appears in the Library, under the **Rules** heading, in the folder you specified.



Observe the demonstration.

Applying default language layers

A language layer is an HP Exstream feature that lets you create different translations of the same message or page in separate layers. The engine determines which layer to include for each customer according to mapped customer data (such as language preference).

If your distribution is worldwide or includes areas where more than one language is spoken, you can apply multiple language layers to a single page or message. Each language layer has different text translations and images, so you use a variable to select a particular language layer according to customer data. This reduces the number of objects created in the Library for multiple-language applications.

You must have the translated source material. Language layers do not translate the content for you.

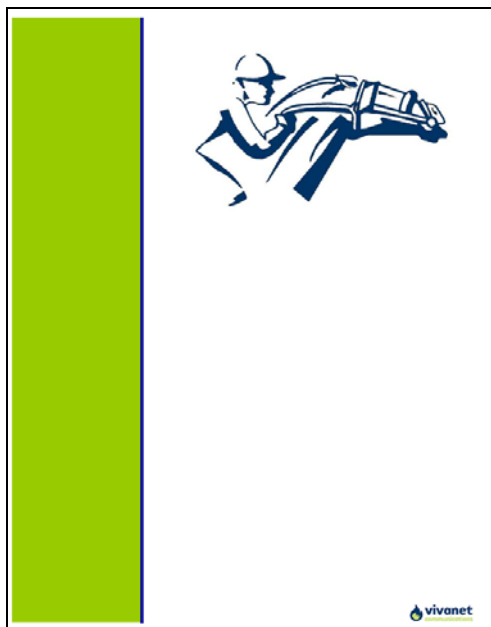
Note:

Your system administrator enables multiple languages and defines them in Design Manager.

Default language layer

The default layer is the only layer available when a page is first created. By placing language-independent content on the default language layer, you can use it as a background for all other language layers. You then add language-specific content to specific language layers.


Default language layer



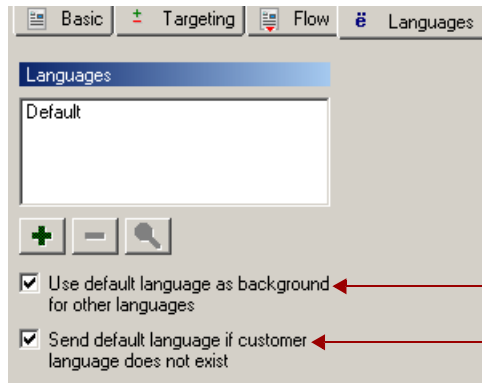
Specific language layer



Designing and editing a language layer

Once a language layer has been created in Design Manager, you design it in Designer. To design a particular layer, click the **Languages** tab. Highlight the layer in the Languages area and click . The page opens in Designer on that particular layer.

Languages tab in Property Panel



Place common objects on the default layer and add language-specific content to other language layers.

Customers without a specified language receive the content on the default language layer.

Note:

Language layers without content are deleted when the page is saved.




Observe the demonstration.

Creating and defining a shape

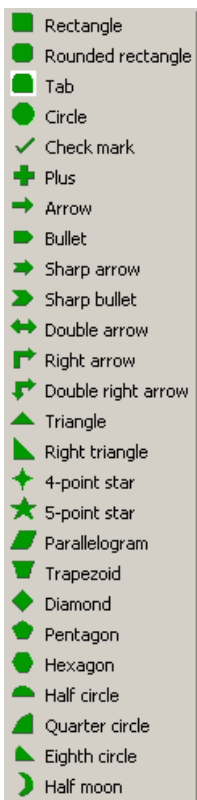
HP Exstream lets you create simple shapes and polygons, such as squares, ovals, arrows, and stars for use as design objects.

Creating a shape

To insert a shape onto a design page, you can either:

- ♦ Click the **Shape**  button on the Drawing Objects toolbar and click a shape option from the flyout menu.
- ♦ From the Menu bar, click **Insert > Shape** and select a shape option.

Shapes flyout menu

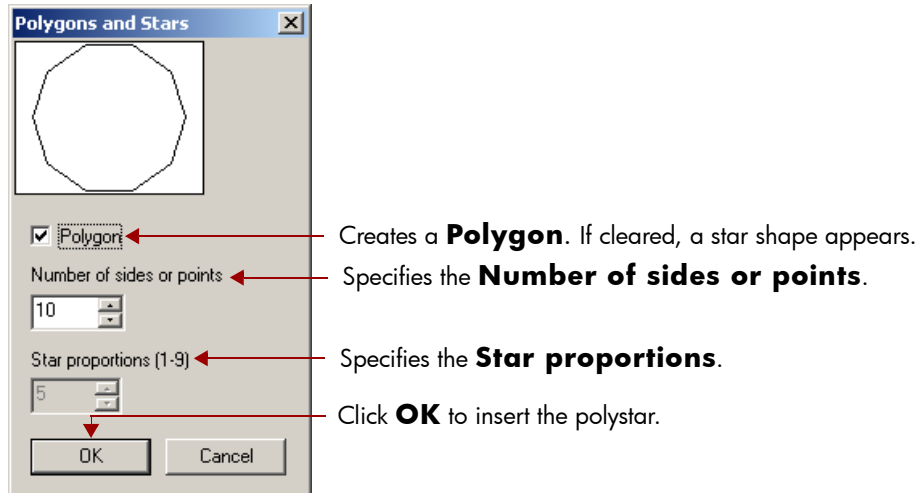


Creating polystar shapes

You can create polygons or star shapes with the number of sides and depth of your choosing.

To insert a polystar shape onto a design page, you can click **Insert > Shape > Custom Polystar** from the Menu bar. The **Polygons and Stars** dialog box opens.

Polygons and stars dialog box



Converting a shape to a text box

After creating a shape, you can convert it into a text box. This lets you:

- ♦ Fill shapes with text.
- ♦ Center text in a shape.
- ♦ Use transparent shapes to create shaped text.

To convert a shape into a text box, right-click the shape and select **Convert polygon** to text from the shortcut menu.

The shape is converted into a text box. When you click inside the object, the text cursor appears at the top of the shape. As you enter text, it conforms to the shape of the object.

Creating and defining a line

HP Exstream lets you create the following:

- ♦ **Lines**—Straight or angled lines
- ♦ **Polylines**—Lines with multiple edit points


You can create lines and curves in HP Exstream by using the Drawing Objects toolbar in Designer. If this toolbar is not already displayed, select **View > Toolbars > Drawing Objects** from the Menu bar. The Drawing Objects toolbar appears.

Drawing Objects toolbar



Creating a line

To insert a line onto a design page, you can either:

- ♦ Click  on the Drawing Objects toolbar.
- ♦ From the Menu bar, click **Insert > Drawing Object > Line**.

The cursor changes to enable you to insert a line on the page.

Line insert cursor



Place the cursor where you want the line to appear and click your left mouse button. The start of the line appears on the page at the insertion point. Drag the mouse across the page to create the line. Click the left mouse button again to end the line.

Creating a polyline

To insert a polyline shape onto a design page, you can either:

- ♦ Click  on the Drawing Objects toolbar.
- ♦ From the Menu bar, click **Insert > Drawing Object > Polyline or Polygon**.

Line insert cursor



Place the cursor where you want the line to appear and click the left mouse button. The start of the line appears on the page at the insertion point. Drag the mouse across the page to create the line. Click the left mouse button to create an edit point.

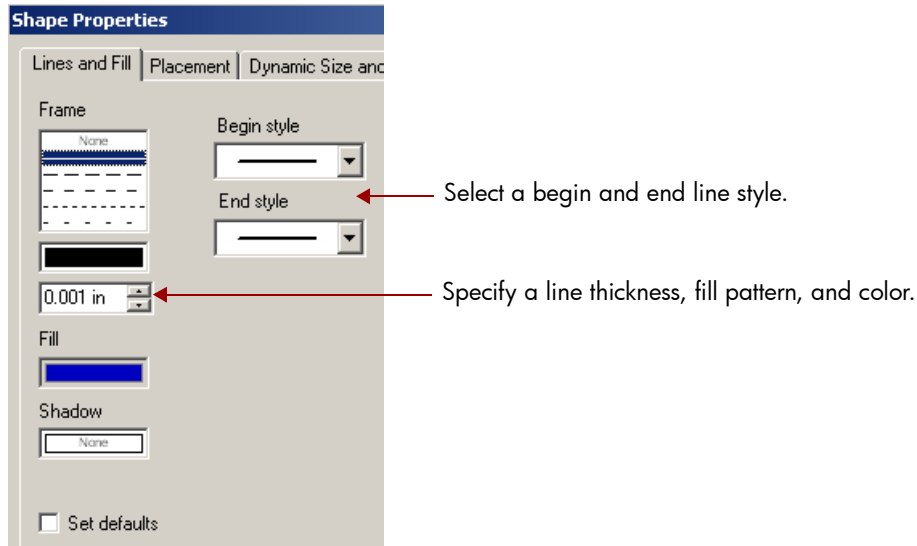
Press ESCAPE when you have completed the polyline.

Defining a line

You can change the properties of a line from the **Shape Properties** dialog box.

To apply line-specific options to a line, you can right-click the line and select **Line Properties** from the shortcut menu. The **Shape Properties** dialog box opens. Click the **Lines and Fill** tab.

Shape Properties dialog box



Click **OK**. The selected options are applied to the line.



Observe the demonstration.

Learning check: Using rules, language layers, and shapes

Here are your requirements. Prior to using HP Exstream, discuss how to complete them.

REQUIREMENTS	IN HP EXSTREAM
Exclude Ohio customers from the sweepstakes.	
Add a default language layer.	
Create the green sidebar.	
Add a blue line.	
Add the jockey image and Vivanet logo.	



To complete the following exercises:

- Refer to the *Design Example* in the *101 Lab Guide*, if necessary.
- Make sure you are working in the **Module 5** folder.
- Use each task's corresponding step-by-step instructions if you need help.




Create a simple rule. This is a three-part exercise.

TASK REQUIREMENTS

TASK	SPECIFICS
Create and define a page.	Create the Sweepstakes Flyer Page using the 8.5 x 11.0 Paper type .
Create and define a document.	Create the Sweepstakes Flyer Document .
Create a targeting rule.	Exclude Ohio customers from the Sweepstakes Flyer Document .



Part 1: Create and define a page

1. Expand the **Exstream > Class Exercises > Module 5** heading.
2. Right-click the **Pages** heading and select **New Page** from the shortcut menu.
3. Enter **Sweepstakes Flyer Page** in the **Name** box.
4. Enter **Run for the Roses Sweepstakes Page** in the **Description** box.
5. Click **Next**.
6. Click the **Paper Type**  button to select a **Paper type**.
7. Select **8.5 x 11.0**.
8. Click **OK**.
9. Click **Finish** to close the **New Page** dialog box.
10. Close the Property Panel.

Part 2: Create and define a document

1. Expand the **Exstream > Class Exercises > Module 5** heading.
2. Right-click the **Documents** heading and select **New Document** from the shortcut menu.
3. Enter **Sweepstakes Flyer Document** in the **Name** box.
4. Enter **Run for the Roses** in the **Description** box.
5. Click **Finish** to close the **New Document** dialog box.

Part 3: Create a targeting rule

1. Click the **Targeting** tab in the Property Panel.
2. Click anywhere inside the **Targeting rule** box to open the **Rule** dialog box.
3. Click the **Rule Mode Toggle**  button to switch from simple selection to rule mode.
4. Click the **Variable Palette**  button next to the **Variable** box.
5. Double-click 'CustomerState' to import the variable.
6. Select **not equal** from the **Condition** drop-down list.
7. Enter "OH" in the **Compare to** box.
8. Click **OK** to close the **Rule** dialog box.
9. Save the document.
10. Close the Property Panel.




Apply a default language layer. This is a two-part exercise.

TASK	SPECIFICS
Add a page to a document.	Add the Sweepstakes Flyer Page to the Sweepstakes Flyer Document .
Add a default language layer.	Apply a default language layer and open the page in Designer.

Part 1: Add a page to a document

1. Expand the **Exstream > Class Exercises > Module 5 > Documents** heading.
2. Expand the **Exstream > Class Exercises > Module 5 > Pages** heading.
3. Drag the **Sweepstakes Flyer Page** and drop it on the **Sweepstakes Flyer Document**.

Part 2: Add a default language layer


1. Drag the **Sweepstakes Flyer Page** to the Property Panel.
2. Click the **Languages** tab.
3. Highlight **Default** in the **Languages** box.
4. Click the **Magnifying Glass**  button beneath the **Languages** box to open the **Default** layer in Designer.



Create and define a shape. This is a three-part exercise.

TASK	SPECIFICS
Create a shape.	Create the Sweepstakes Sidebar .
Define a shape.	Place the sidebar according to the <i>Design Example</i> in the <i>Lab Guide</i> .
Change the shape's color.	Color the Sweepstakes Sidebar Vivant Lime.

Part 1: Create a shape

1. Check the Status bar in the lower right corner to verify that you have opened the Default Language layer.
2. Click the **Shape**  button on the Drawing Objects toolbar.
3. Select **Rectangle** from the drop-down list.

Part 2: Define a shape

1. Right-click the shape and select **Polygon Shape Properties** from the shortcut menu.
2. Click the **Dynamic Size and Placement** tab.
3. Enter **sweepstakes sidebar** in the **Reference name** box.
4. Click the **Placement** tab.
5. Clear the **Lock proportions** check box.
6. Adjust the shape's **Horizontal position** and **Vertical position** to match the *Design Example* in the *Lab Guide*.
7. Adjust the shape's **Width** and **Height** to match the *Design Example* in the *Lab Guide*.

Part 3: Change the shape's color


1. Click the **Lines and Fill** tab.
2. Select **None** as the **Frame** style.
3. Click in the **Fill** color well.
4. Select **Vivanet Colors** from the **Color model** drop-down list.
5. Select **Vivanet Lime** from the **Standard color palette**.
6. Click **OK** to close the **Color** dialog box.
7. Click **OK** to close the **Shape Properties** dialog box.
8. Save your page.
9. Click anywhere on the page to release the selected object.



Create and define a line. This is a six-part exercise.

TASK	SPECIFICS
Create a line.	Create a vertical line.
Define a line.	Place the line next to the sidebar to match the <i>Design Example</i> in the <i>Lab Guide</i> .
Change the line's color.	Color the line Vivianet Blue.
Add an image.	Add the jockey image to the page.
Define the image.	Place the jockey image to match the <i>Design Example</i> in the <i>Lab Guide</i> .
Add the logo.	Add the Vivianet logo to the page to match the <i>Design Example</i> in the <i>Lab Guide</i> .

Part 1: Create a line

1. Click the **Line**  button on the Drawing Objects toolbar.
2. Draw a vertical line to the right of the **Sweepstakes Sidebar** to match the *Design Example* in the *Lab Guide*.


Part 2: Define a line

1. Right-click the line and select **Line Properties** from the shortcut menu.
2. Click the **Dynamic Size and Placement** tab.
3. Enter **Blue Line** in the **Reference name** box.
4. Click the **Placement** tab.
5. Adjust the line's **Horizontal position** and **Vertical position** to match the *Design Example* in the *Lab Guide*.
6. Adjust the line's **Height** to match the *Design Example* in the *Lab Guide*.

Part 3: Change the line's color

1. Click the **Lines and Fill** tab.
2. Click in the **Frame** color well.
3. Select **Vivanet Colors** from the **Color model** drop-down list.
4. Select **Vivanet Blue** from the **Standard color palette**.
5. Click **OK** to close the **Color** dialog box.
6. Enter **.05 in** for the line thickness in the box beneath the **Frame** color well.
7. Click **OK** to close the **Shape Properties** dialog box.
8. Save the page.

Part 4: Add an image

1. Click the **Image**  button on the Drawing Objects toolbar.
2. Browse to **C:\101 Introduction to HP Exstream\Image Files\jockey.jpg**.
3. Click **Open** to select the file.
4. Click **OK** to import the image.
5. Click **OK** to close the message that the data was saved.

Part 5: Define the image

1. Right-click the image and select **Image Properties** from the shortcut menu.
2. Click the **Dynamic Size and Placement** tab.
3. Enter **Horse and Rider** in the **Reference name** box.
4. Click the **Placement** tab.
5. Clear the **Lock proportions** check box.
6. Adjust the **Horizontal position** and **Vertical position** to match the *Design Example* in the *Lab Guide*.
7. Adjust the **Width** and **Height** to match the *Design Example* in the *Lab Guide*.
8. Click **OK** to close the **Image Properties** dialog box.
9. Save the page.

Part 6: Add the logo

1. Repeat the steps in the previous two exercises (Parts 4 and 5) to place the Vivanet logo in the lower-right corner of the page.
2. Save the page and close Designer.

Adding specific language layers

HP Exstream lets you create separate output for different languages. First, you use variables and a formula so HP Exstream can determine the customer language. Then, using language layers, you can design content for multiple languages in one application.

This lesson discusses how to determine the customer language and apply specific language layers.

Objectives

After you complete this lesson, you should be able to do the following:

- ♦ View the customer language variable.
- ♦ Create a formula to select a language.
- ♦ Create and define specific language layers.

Terms

Important terms used in this lesson include:

- ♦ **Formula**—Logic you create in a formula variable to calculate new values based on available data
- ♦ **Language layer**—A virtual layer that lets you create content for multiple languages in a single message or page. The engine determines which layer to include for each customer according to mapped customer data (such as language preference).

Additional information

For more information on this topic, refer to the following guides:

- ♦ *Built-In Functions* guide
- ♦ *Design Objects* guide
- ♦ *Formulas, Functions, and Rules* guide
- ♦ *Variables* guide

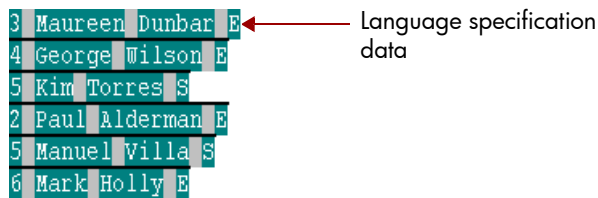
Viewing the customer language variable

The customer language variable lets you personalize the language of a communication for each customer. For HP Exstream to correctly determine a customer's language, create a user variable with a **Source** of **File only**. This variable is mapped to the data file to read the customer language information into the engine.

Mapping the variable

The created variable must be mapped to the customer language information in the data file. In this instance, the variable is mapped to a single letter that specifies the language to the engine.

Data file

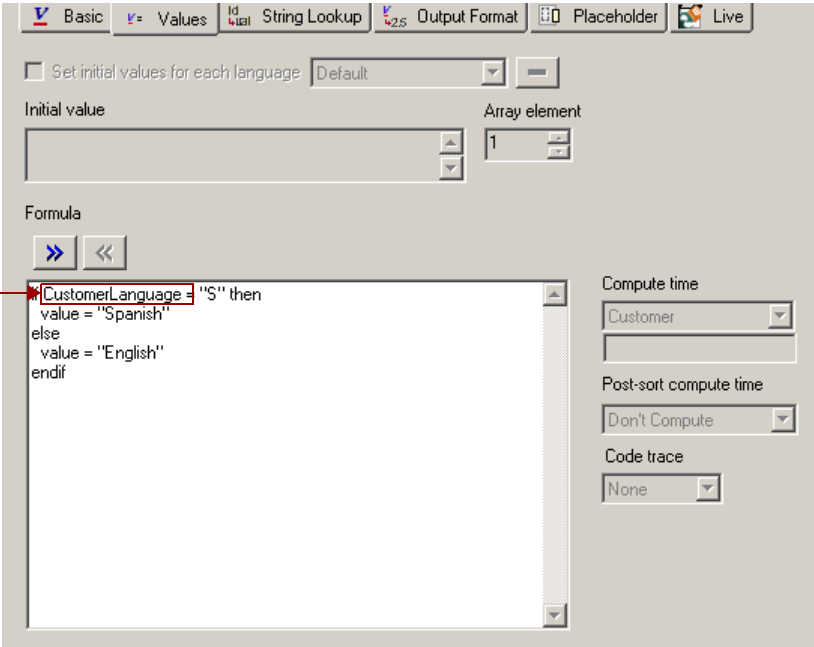


3	Maureen Dunbar	E
4	George Wilson	E
5	Kim Torres	S
2	Paul Alderman	E
5	Manuel Villa	S
6	Mark Holly	E

Creating a formula to select a language

The system variable 'SYS_LanguageCustomer' contains a formula HP Exstream uses to determine the customer's language. To specify the customer language, drag the variable to the Property Panel and click the **Values** tab. Alter the formula here to reflect the customer language variable you created and the customer information to which it is mapped. Without this formula, the customer's language is not chosen.

'SYS_LanguageCustomer' Values tab



Variable name

```

CustomerLanguage = "S" then
value = "Spanish"
else
value = "English"
endif

```

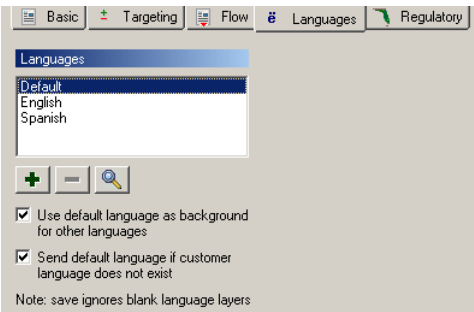


Observe the demonstration.

Creating and defining specific language layers

A language layer is a virtual layer that lets you create content for multiple languages in a single message or page. The engine determines which layer to include for each customer according to mapped customer data (such as language preference). The specific language layers are just like the default language layer, but they contain the language content for your design. You must add each specific language layer to the page from the **Languages** tab in the Property Panel. On the tab, there is a box listing all language layers on the page. The default layer is the only layer available when you first create a page.

Languages tab




Click  to open the **Select Language** dialog box.

Select Language dialog box

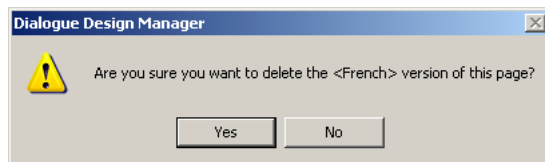


Select the desired language and click **OK**.

Deleting a language


To remove a language, highlight the language in the list and click . You receive a warning to ensure you do not accidentally delete a language.

Warning message



Defining a language layer

You use Designer to define specific language layers.

To define a language layer, click  on the Standard toolbar. The **Select the language to edit** dialog box opens.

Select the language to edit dialog box



The language layer selected is now active. You can design the page with the language layer by adding objects to it or deleting objects from it.

You may also target specific messages (graphic and text) to a message layer under the **Content** tab.



Observe the demonstration.

Learning check: Adding specific language layers

Here are your requirements. Prior to using HP Exstream, discuss how to complete them.

REQUIREMENTS	IN HP EXSTREAM
Determine the customer language preference.	
Input the customer language information in HP Exstream.	
Create a bilingual flyer.	



To complete the following exercises:

- Refer to the *Design Example* in the *101 Lab Guide*, if necessary.
- Unless otherwise stated, make sure you are working in the **Module 5** folder.
- Use each task's corresponding step-by-step instructions if you need help.



View the 'CustomerLanguage' variable.

TASK	SPECIFICS
View the 'CustomerLanguage' variable.	Test the Current Subscribers data file to see the test data values of the 'CustomerLanguage' variable.

The 'CustomerLanguage' variable establishes the customer's language preference.

1. Expand the **Exstream > Class Exercises > Data Files** heading.
2. Drag the **Current Subscribers** data file into the Edit Panel.
3. With the cursor in the Edit Panel, right-click and select **Test** from the shortcut menu.
4. Clear the **Selected only** check box and click **Go**.
5. Scroll through the **Results** and notice that the last variable for each customer is 'CustomerLanguage.' The value is either an **E** for English or an **S** for Spanish.
6. Close the **Variable Test Results** dialog box and the Edit Panel.



Create a formula to select a language.

TASK	SPECIFICS
Create a formula to define the customer language.	<p>Define the customer language in the 'SYS_LanguageCustomer' variable using the following formula:</p> <ul style="list-style-type: none">♦ <code>if (CustomerLanguage = "S") then</code> <code>value = "Spanish"</code> <code>else</code> <code>value = "English"</code> <code>endif</code>

1. Expand the **Exstream > Data Dictionary** heading.
2. Locate the 'SYS_LanguageCustomer' variable and drag it into the Property Panel.
3. Click the **Values** tab and click in the **Formula** box.
4. Enter the following code, inserting the variable where appropriate:



```
IF (CustomerLanguage = "S") THEN
    value = "Spanish"
ELSE
    value = "English"
ENDIF
```
5. Save the variable.



Add and define specific language layers. This is a nineteen-part exercise.

TASK	SPECIFICS
Add the English layer.	<ul style="list-style-type: none"> Open the English language layer in Design Manager.
Add the English roses title.	<ul style="list-style-type: none"> Add the Roses Title - English image.
Define the English roses title.	<ul style="list-style-type: none"> Position the roses title to match the <i>Design Example</i> in the <i>Lab Guide</i>.
Add the English entry form.	<ul style="list-style-type: none"> Add the Entry Form - English image. Position it to match the <i>Design Example</i> in the <i>Lab Guide</i>.
Add the English entry rules.	<ul style="list-style-type: none"> Add a text box for the entry rules. Position to match the <i>Design Example</i> in the <i>Lab Guide</i>.
Import and format a text file.	<ul style="list-style-type: none"> Import the Entry Rules - English text file to the text box. Format it to match the <i>Design Example</i> in the <i>Lab Guide</i>.
Add the English star message.	<ul style="list-style-type: none"> Create a five-sided polystar.
Define the English star message.	<ul style="list-style-type: none"> Position the star on the page to match the <i>Design Example</i> in the <i>Lab Guide</i>.
Change the star's color.	<ul style="list-style-type: none"> Color the star Vivanet Blue.
Convert the star to a text box.	<ul style="list-style-type: none"> Convert the star to a text box. Insert the 'CustomerFirstName' variable. Add the message text to match the <i>Design Example</i> in the <i>Lab Guide</i>.
Add the Spanish layer.	<ul style="list-style-type: none"> Copy the Star Message - English to the clipboard. Open the Select the language to edit dialog box. Switch to the Spanish layer.
Add the Spanish star message.	<ul style="list-style-type: none"> Paste the Star Message - English to the page. Define it to match the <i>Design Example</i> in the <i>Lab Guide</i>.
Add the Spanish roses title.	<ul style="list-style-type: none"> Add the Roses Title - Spanish image.
Define the Spanish roses title.	<ul style="list-style-type: none"> Position the roses title to match the <i>Design Example</i> in the <i>Lab Guide</i>.
Add the Spanish entry form.	<ul style="list-style-type: none"> Add the Entry Form - Spanish image. Position it to match the <i>Design Example</i> in the <i>Lab Guide</i>.
Add the Spanish entry rules.	<ul style="list-style-type: none"> Add a text box for the entry rules. Position to match the <i>Design Example</i> in the <i>Lab Guide</i>.
Import and format a text file.	<ul style="list-style-type: none"> Import the Entry Rules - Spanish text file to the text box. Format it to match the <i>Design Example</i> in the <i>Lab Guide</i>.
Assemble the application.	<ul style="list-style-type: none"> In Design Manager, create the Sweepstakes Flyer Application. Place the Current Subscribers data file and the Sweepstakes Flyer Document in the application.
Package for the Exstream Viewer and view the output.	<ul style="list-style-type: none"> Package the application. Run the engine. View the output in the Exstream Viewer.

Part 1: Add the English layer


1. Drag the **Sweepstakes Flyer Page** from **Module 5** to the Property Panel.
2. Click the **Languages** tab.
3. Click the **Plus**  button beneath the **Languages** box.
4. Click **English**.
5. Click **OK**.
6. Click **English** in the **Languages** box.
7. Click the **Magnifying Glass**  button beneath the **Languages** box to open the English layer in Designer.



Answer the following questions.

1. Does the Status bar verify that you have opened the **English** language layer?
2. Does the **Default/Background** layer appear?

Part 2: Add the English roses title

1. Click the **Image**  button on the Drawing Objects toolbar.
2. Browse to C:\101 Introduction to HP Exstream\Image Files\Roses Title - English.jpg.
3. Click **Open** to select the file.
4. Click **OK** to import the image.
5. Click **OK** to close the message that the data was saved.


Part 3: Define the English roses title

1. Right-click the image and select **Image Properties** from the shortcut menu.
2. Click the **Dynamic Size and Placement** tab.
3. Enter **Roses Title - English** in the **Reference name** box.
4. Click the **Placement** tab.
5. Clear the **Lock proportions** check box.
6. Adjust the **Horizontal position** and **Vertical position** to match the *Design Example* in the *Lab Guide*.
7. Adjust the **Width** and **Height** to match the *Design Example* in the *Lab Guide*.
8. Click **OK** to close the **Image Properties** dialog box.
9. Save your page.

Part 4: Add the English entry form

1. Repeat the steps in the previous exercise to place the **Entry Form** beneath the **Roses Title**.
 - File name is:
C:\101 Introduction to HP Exstream\Image Files\Entry Form - English.jpg.
 - **Reference name** is Entry Form - English.
2. Save your page.

Part 5: Add the English entry rules

1. Click the **Text**  button on the Drawing Objects toolbar.
2. Click on a blank spot on the page to insert a text box.
3. Right-click the text box and select **Text Properties** from the shortcut menu.
4. Click the **Dynamic Size and Placement** tab.
5. Enter **Entry Rules - English** in the **Reference name** box.
6. Clear the **Autosize width** and **Autosize height** check boxes.
7. Click the **Placement** tab.
8. Adjust the **Horizontal position** and **Vertical position** to match the *Design Example* in the *Lab Guide*.
9. Adjust the **Width** and **Height** using the Design Example.
10. Click **OK** to close the **Text Properties** dialog box.

Part 6: Import and format a text file

1. Click inside the text box to enable edit mode (your cursor blinks in edit mode).
2. Click **Insert > Import Text File** from the Menu bar.
3. Browse to C:\101 Introduction to HP Exstream\Text Files\Entry Rules - English.txt.
4. Click **Open** to select the file.
5. Format the text to match the *Design Example* in the *Lab Guide*.
6. Save your page.

Part 7: Add the English star message

1. Click **Insert > Shape > Custom Polystar** from the Menu bar.
2. Clear the **Polygon** check box.
3. Enter 5 in the **Number of sides or points** box.
4. Click **OK**.

Part 8: Define the English star message

1. Right-click the star and select **Polygon Shape Properties** from the shortcut menu.
2. Click the **Dynamic Size and Placement** tab.
3. Enter **Star Message - English** in the **Reference name** box.
4. Click the **Placement** tab.
5. Clear the **Lock proportions** check box.
6. Adjust the **Horizontal position** and **Vertical position** to match the *Design Example* in the *Lab Guide*.
7. Adjust the **Width** and **Height** to match the *Design Example* in the *Lab Guide*.


Part 9: Change the star's color

1. Click the **Lines and Fill** tab.
2. Select **None** as the **Frame style**.
3. Click in the **Fill** color well.
4. Select **Vivanet Colors** from the **Color model** drop-down list.
5. Select **Vivanet Blue** from the **Standard color palette**.
6. Click **OK** to close the **Color** dialog box.
7. Click **OK** to close the **Shape Properties** dialog box.
8. Save your page.

Part 10: Convert the star message to a text box

1. Right-click the star and select **Convert polygon to text** from the shortcut menu.
2. Click inside the star to enter edit mode.
3. Use the **Variable Palette** to import the 'CustomerFirstName' variable into the **Star Message - English** text box.
4. Enter a comma (,) and press ENTER on your keyboard.
5. Enter the message text to match the *Design Example* in the *Lab Guide*.
6. Center the message horizontally and vertically within the star.
7. Format the font to match the *Design Example* in the *Lab Guide*.
8. Save the page and leave Designer open.


Part 11: Add the Spanish layer

1. Press and hold CTRL and click the **Star Message - English** to make the text box properties active.
2. Right-click the **Star Message - English** and select **Copy** from the shortcut menu.
3. Click the **Language Layer**  button on the Standard toolbar.
4. Clear the **Show existing languages only** check box.
5. Select **Spanish** from the drop-down list and click **OK**.
6. Check the Status bar to verify that you are working in the **Spanish** layer.

Part 12: Add the Spanish star message

1. Click **Edit > Paste** from the Menu bar to paste the **Star Message - English** onto the Spanish layer.
2. Change the **Reference name** to **Star Message - Spanish**.
3. Add and format the Spanish message text to match the *Design Example* in the *Lab Guide*.
4. Save your page.

Part 13: Add the Spanish roses title

1. Click the **Image**  button on the Drawing Objects toolbar.
2. Browse to **C:\101 Introduction to HP Exstream\Image Files\Roses Title - Spanish.jpg**.
3. Click **Open** to select the file.
4. Click **OK** to import the image.
5. Click **OK** to close the message that the data was saved.


Part 14: Define the Spanish roses title

1. Right-click the image and select **Image Properties** from the shortcut menu.
2. Click the **Dynamic Size and Placement** tab.
3. Enter **Roses Title - Spanish** in the **Reference name** box.
4. Click the **Placement** tab.
5. Clear the **Lock proportions** check box.
6. Adjust the **Horizontal position** and **Vertical position** to match the *Design Example* in the *Lab Guide*.
7. Adjust the **Width** and **Height** to match the *Design Example* in the *Lab Guide*.
8. Click **OK** to close the **Image Properties** dialog box.
9. Save your page.

Part 15: Add the Spanish entry form

1. Repeat the steps in the previous exercise to place the Entry Form beneath the Roses Title.
 - File name is:
C:\101 Introduction to HP Exstream\Image Files\Entry Form - Spanish.jpg
 - **Reference name** is **Entry Form - Spanish**.
2. Save your page.

Part 16: Add the Spanish entry rules

1. Click the **Text**  button on the Drawing Objects toolbar.
2. Click on a blank spot on the page to insert a text box.
3. Right-click the text box and select **Text Properties** from the shortcut menu.
4. Click the **Dynamic Size and Placement** tab.

5. Enter **Entry Rules - Spanish** in the **Reference name** box.
6. Clear the **Autosize width** and **Autosize height** check boxes.
7. Click the **Placement** tab.
8. Adjust the **Horizontal position** and **Vertical position** to match the *Design Example* in the *Lab Guide*.
9. Adjust the **Width** and **Height** to match the *Design Example* in the *Lab Guide*.
10. Click **OK** to close the **Text Properties** dialog box.

Part 17: Import and format a text file

1. Click inside the text box to enable edit mode.
2. Click **Insert > Import Text File** from the Menu bar.
3. Browse to **C:\101 Introduction to HP Exstream\Text Files\Entry Rules - Spanish.txt**.
4. Click **Open** to select the file.
5. Highlight the text and format it to match the *Design Example* in the *Lab Guide*.
6. Save and close Designer.

Part 18: Assemble the application

1. Expand the **Exstream > Class Exercises > Module 5** heading.
2. Right-click the **Applications** heading and select **New Application** from the shortcut menu.
3. Enter **Sweepstakes Flyer Application** in the **Name** box.
4. Click **Finish**.
5. Close the Property Panel.
6. Expand the **Exstream > Class Exercises > Data Files** heading.
7. Expand the **Exstream > Class Exercises > Module 5 > Applications** heading.
8. Drag the **Current Subscribers** data file to the **Sweepstakes Flyer Application**.
9. Expand the **Exstream > Class Exercises > Module 5 > Documents** heading.
10. Drag the **Sweepstakes Flyer Document** to the **Sweepstakes Flyer Application**.

Part 19: Package for the Exstream Viewer and view the output

1. Right-click the application and select **Package Application** from the shortcut menu.
2. Direct the **Package file** to **C:\101 Introduction to HP Exstream\Sweepstakes Flyer.pub**.
3. Package and run the application.
4. Browse through the message file.
5. Browse through the output.
6. Close Designer.
7. Close the **Building Production Package File** dialog box.

Applying design layers and establishing the approval process

HP Exstream lets you create separate content for different output devices. You use design layers to place content that affects the design but does not print. Design layers are useful for determining spacing, including notices to designers, and placing margin marks.

HP Exstream also enables approval processes so users can submit objects to specified approvers. You can create users and user groups to limit access to HP Exstream objects and features.

This lesson provides an introductory discussion to design layers and approvals.

Objectives

After you complete this lesson, you should be able to do the following:

- ♦ Define a design layer.
- ♦ Identify the approval process.
- ♦ Submit an object for approval.
- ♦ Identify object status symbols.
- ♦ Identify user access rights.

Terms

Important terms used in this lesson include:

- ♦ **Approver**—A user who approves or rejects objects after they have been submitted for approval.
- ♦ **Check in/out control**—An option that allows only one person to edit an object at a time.
- ♦ **Design layer**—A virtual layer that can simplify the design process by allowing only selected objects to be displayed. It can also be used to selectively add and remove content based on a destination device. Design Layers are located under the **Design** heading in the Library.
- ♦ **Lock**—The action a user performs to secure an object so it cannot be edited. Accessed by the Lock button on the Management toolbar.
- ♦ **Super user**—An HP Exstream user with the highest administrative permission levels or all access rights.
- ♦ **Design user**—A person who accesses HP Exstream.
- ♦ **Design group**—A list of one or more users and/or other user groups.
- ♦ **Work in Progress (WIP)**—The default status of all objects that indicates the object can still be edited and has not been submitted for approval.

Additional information

For more information on this topic, refer to the following guides:

- ♦ *Approvals and Workflow* guide
- ♦ *Design Objects* guide

Defining a design layer

A design layer is a virtual layer that can simplify the design process by allowing only selected objects to be displayed. It can also be used to selectively add and remove content based on a destination device. Design Layers are located under the **Design** heading in the Library.

Use design layers if you have objects affecting your design that you do not want to print, such as pre-printed letterheads or print margin marks. Within a given page, a design layer effectively creates a named grouping of design components that can be kept static as you work on other objects within a complex design. You can also use design layers to mark locations where logos or other items already exist on pre-printed stock.


Design layers are associated with specific output devices. Depending how the design layer is configured, an object is included or excluded based on the output device to which it is written.

Usually, a system administrator creates a common set of design layers in Design Manager before they can be used in Designer. These layers can be used across all pages, messages, and templates.

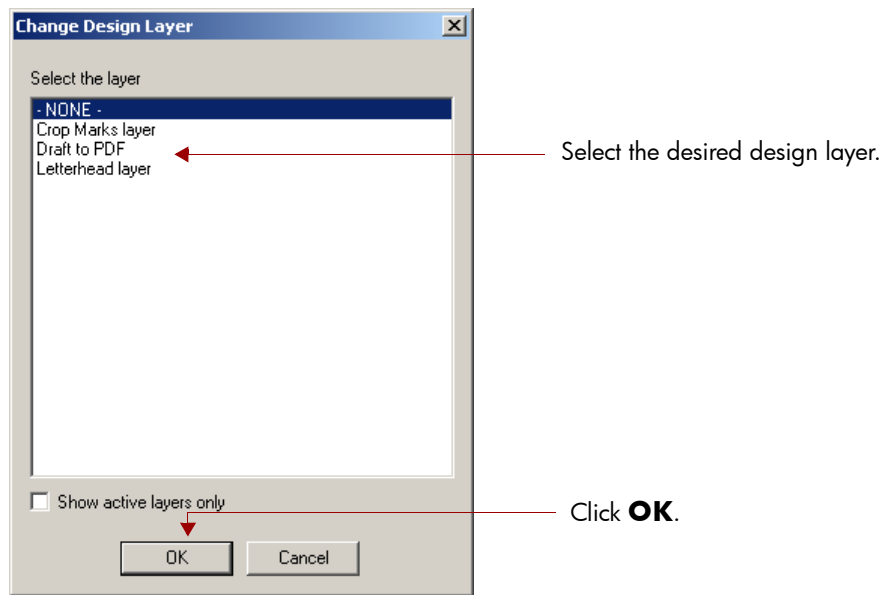
Design layers can be defined as:


- ♦ **Always**—Both for designing and for printing. This is the default selection.
- ♦ **Design only**—Only when designing the page, message, or template.
- ♦ **Output inclusion**—Both for designing and composing to the selected output device.
- ♦ **Output exclusion**—Cannot be used for a currently selected output device.

Applying a design layer

In Designer, to apply a design layer to a page, select an object on a page and click  from the Properties toolbar. Alternatively, right-click the object when it is not in edit mode and select **Change layer** from the shortcut menu.

Change Design Layer dialog box



The design layer is applied to the page and you can place design objects on the design layer. To save an object to a design layer, select the object, select the design layer, and click . The object is then saved to that design layer.

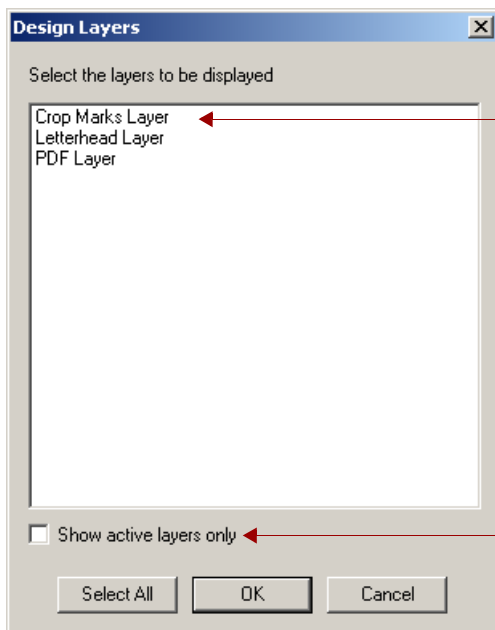


Because a design layer is applied on the page level, growing objects that split and flow cannot be used on them.

Viewing a design layer

To view the objects associated with each design layer, click **View > Design Layers > View Layer Palette** from the Menu bar. The **Layer Palette** dialog box opens.

Design Layers dialog box



← Select the desired design layer.

← Select to display only active layers.

The selected design layer is displayed or hidden according to the options selected.



Observe the demonstration.

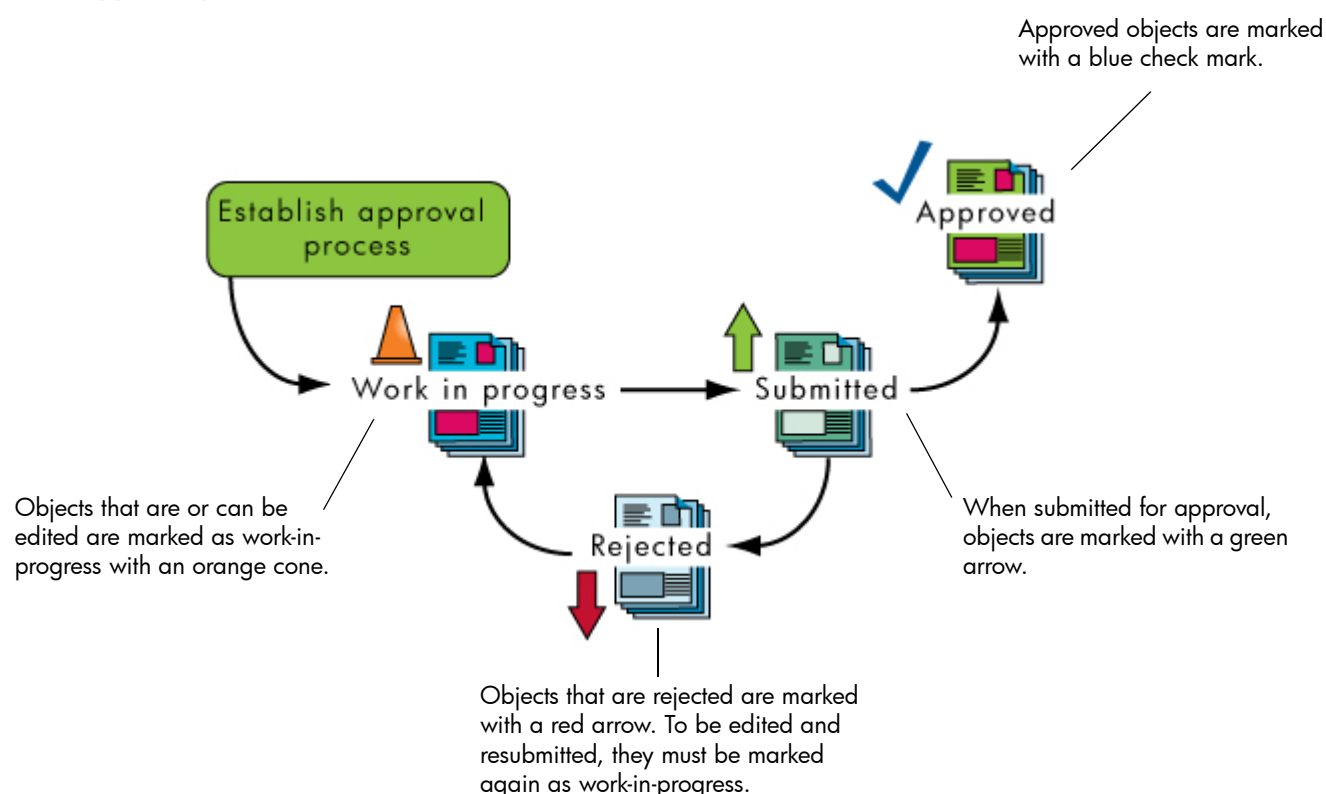
Identifying the approval process

To ensure your communications meet your business needs, your organization can use an optional approval system for objects. HP Exstream provides a simple approval system as part of its base functionality. Your options expand to a more complex customizable system with the addition of the Advanced Design Workflow module.

Base approval system

The base approval system in HP Exstream lets you submit a work-in-progress object for approval or rejection to an approver.

Basic approval process



Without the Advanced Design Workflow module in HP Exstream, you have a simple approval system with one approval step. With the addition of the Advanced Design Workflow module, you can create a much more complex system.

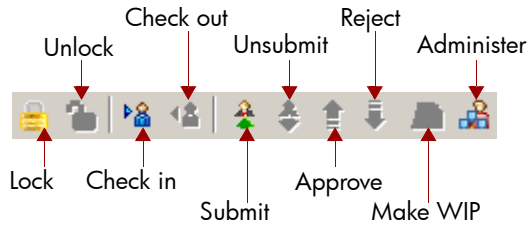
Work-in-progress is the default status of all objects created in Design Manager that indicates the object can still be edited and has not been submitted for approval.

An approver is a user who approves or rejects objects after they have been submitted for approval.

Using the Management toolbar

You can perform most approval tasks using the Management toolbar.

Management toolbar



To view the Management toolbar, click **View > Toolbars > Management** on the Menu bar. The Management toolbar appears on the Design Manager interface.

Note:

The buttons are active only if enabled in the **System Settings**.

Submitting an object for approval

To submit an object for approval, either:

- ♦ Right-click the object and select **Submit for Approval** from the shortcut menu.
- ♦ Select the object and click  on the Management toolbar.

Submit for Approval dialog box

The screenshot shows the 'Submit for Approval' dialog box. It has a title bar with a close button. The main area contains the following fields and controls:

- Name:** A text box containing 'Sweepstakes Flyer Page'.
- Approval date (initial date that this version is effective):** A date picker showing 'February 1, 2006'. A red arrow points to this field with the text 'Select an **Approval date**.'
- Expiration date (last date that this version is effective):** A date picker showing 'February 1, 2006'. A red arrow points to this field with the text 'Select an **Expiration date**.'
- No expiration date:** A checked checkbox.
- Approval, rejection, and version notes:** A large text area. A red arrow points to it with the text 'Optionally, enter **Approval, rejection, and version notes**.'
- Buttons:** 'OK' and 'Cancel' buttons at the bottom. A red arrow points to the 'OK' button with the text 'Click **OK**.'

Note:

When the expiration date passes and the item has not yet been approved or rejected, it is automatically rejected.

Approving an object

Only users designated as approvers can approve objects submitted for approval. Once the object is submitted, the approver can:

- ◆ Approve the object.
- ◆ Reject the object.
- ◆ Cancel submission of the object.

If you are an approver, the system can be configured to send you e-mails when a new object requires your review.

To approve an object submitted for approval, you either:

- ◆ Right-click the object and select **Approve** from the shortcut menu.
- ◆ Select the object and click  on the Management toolbar.

Approve dialog box

Approve

Name
Sweepstakes Flyer Page

Approval date (initial date that this version is effective)
February 1 2006

Expiration date (last date that this version is effective)
☒ No expiration date
February 1 2006

Approval, rejection, and version notes

OK Cancel

Select an **Approval date**.

Select an **Expiration date**.

Optionally, enter **Approval, rejection, and version notes**.

Click **OK**.



Observe the demonstration.

Identifying object status symbols

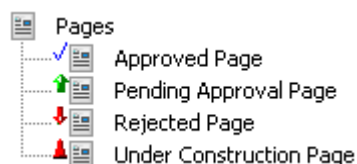
Approval systems describe moving objects through a formal approval process to achieve various approval states. An approval process is a feature used to specify the stages of approval for objects.





DESCRIPTION OF APPROVAL STATES

APPROVAL STATE	STEP
Work-in-Progress (WIP)	The state when an object is created or modified.
Submitted	The object is ready for approval.
Approved	An approver reviews the object and approves it, thus completing the approval process.
Rejected	An approver reviews the object and rejects it. The object must be revised and resubmitted.

You can determine the approval state of an object at a glance by viewing its status symbol. This icon displays to the left of the object in the Library.

Approval status icons in the Library



SYMBOL	DESCRIPTION
	An orange cone indicates the object is a Work-in-Progress.
	A green upward-pointing arrow indicates the object has been submitted for approval.
	A red downward-pointing arrow indicates the object has been rejected.
	A blue check mark indicates the object has been approved.

Note:

When an object is rejected, it is unavailable for use or further editing. The object status must be changed from **Rejected** to **Work-In-Progress**. Then it may be edited and re-submitted for approval.

Identifying user access rights

To access and use HP Exstream, you are assigned a design user role by your system administrator. One of these roles, called the super user, has complete access to the HP Exstream system.

The system administrator assigns each user specific access rights to various HP Exstream capabilities according to a specific set of design users known as a design group. Your user group's access rights determine what you see, the folders you can access, and which functions you can perform in HP Exstream.

- ♦ Super users are HP Exstream users with the highest administrative permission levels or all access rights.
- ♦ A design user is a person who accesses HP Exstream.
- ♦ Design groups define a design user's access rights.

Your functional access determines what you can see or do when you log in to HP Exstream. Depending on your design group membership, you can have varying types of access permissions to the environment, data, applications, and campaigns. A design group is a list of one or more users and/or other user groups.

ACCESS RIGHTS' CAPABILITIES

ACCESS RIGHTS	VIEW	REVISE	CREATE	DELETE
None				
View	x			
Revise	x	x		
Create	x	x	x	
Create and delete	x	x	x	x

Access rights include:

- ♦ **None**—You do not have access to these items. For example, headings for these types of objects do not appear in your HP Exstream system.
- ♦ **View**—You can look at the objects and settings in question, but you may not change anything. For example, a grey folder means that you may view it, but not add, modify or delete anything.
- ♦ **Revise**—You can look at and modify the objects, but you cannot create new ones or delete existing ones.
- ♦ **Create**—You can look at, modify, and create new objects, but you cannot delete anything.
- ♦ **Create and delete**—Gives the full range of permissions: you can view, modify, create, and delete items.

In Design Manager, you can check your design group access rights at any time by going to **File > User Access Report**.

User access terms

HP Exstream includes several features to limit users' access to objects. This enables single-sourcing, prevents overwriting and other errors, and maintains project integrity.

Check In/Check Out control

Your organization can enable **Check In/Check Out** controls to prevent multiple users from trying to update the same object at the same time.

- Check-in and out is enabled when the **Check-in and check-out check box** on the **Workflow** tab of the **System Configuration** dialog box is selected. Usually only your system administrator has access.

With this feature enabled, only one user at a time can make edits. This feature does not restrict multiple users from viewing the object's properties.

Object locking

Your organization can enable the **Object locking** feature on your system. This feature helps you ensure no objects are overwritten.

Object locking is enabled when the **Object locking** check box on the **Workflow** tab of the **System Configuration** dialog box is selected. Usually only your system administrator has access.

With this feature enabled, objects can be set so they are not available for editing or deletion by any user.

Note:

You cannot unlock an object that was locked by another user.



Observe the demonstration.

Learning check: Applying design layers and establishing the approval process

Here are your requirements. Prior to using HP Exstream, discuss how to complete them.

REQUIREMENTS	IN HP EXSTREAM
Add the draft marker and create a PDF.	
Submit the Sweepstakes Flyer Page for approval.	



- To complete the following exercises:
- Refer to the *Design Example* in the *101 Lab Guide*, if necessary.
 - Make sure you are working in the **Module 5** folder.
 - Use each task's corresponding step-by-step instructions if you need help.




Define a design layer. This is a seven-part exercise.

TASKS	SPECIFICS
Open the design page.	<ul style="list-style-type: none">• Open the Sweepstakes Flyer Page in Designer.
Select the layer to edit.	<ul style="list-style-type: none">• Open the Default/Background layer.
Add the Draft Message text box.	<ul style="list-style-type: none">• Add a text box for the draft message. Position it to match the <i>Design Example</i> in the <i>Lab Guide</i>.
Add content to the Draft Message text box.	<ul style="list-style-type: none">• Enter DRAFT in the box.• Format it to match the <i>Design Example</i> in the <i>Lab Guide</i>.
Add content to the design layer.	<ul style="list-style-type: none">• Add the draft message to the Draft to PDF design layer.
Package for the Exstream Viewer and view the output.	<ul style="list-style-type: none">• In Design Manager, package the Sweepstakes Flyer Application.• Run the engine.• View the output in the Exstream Viewer.
Package for PDF and view the output.	<ul style="list-style-type: none">• In Design Manager, package the Sweepstakes Flyer Application.• Specify PDF as the output.• Run the engine.• View the PDF output.


Part 1: Open the design page

1. Expand the **Exstream > Class Exercises > Module 5 > Pages** heading.
2. Drag the **Sweepstakes Flyer Page** to the Edit Panel.

Part 2: Select a layer to edit

1. Click the **Language Layer**  button on the Standard toolbar.
2. Select **Default/Background** layer from the drop-down list.
3. Click **OK**.
4. Check the Status bar to verify that you are working in the **Default Language** layer.

Part 3: Add the draft message text box

1. Click the **Text**  button on the Drawing Objects toolbar.
2. Click on a blank spot on the page to insert a text box.
3. Right-click the text box and select **Text Properties** from the shortcut menu.
4. Click the **Dynamic Size and Placement** tab.
5. Enter **Draft Message** in the **Reference name** box.
6. Clear the **Autosize width** and **Autosize height** check boxes.
7. Click the **Placement** tab.
8. Adjust the **Horizontal position** and **Vertical position** to match the *Design Example* in the *Lab Guide*.
9. Adjust the **Width** and **Height** to match the *Design Example* in the *Lab Guide*.
10. Click **OK** to close the **Text Properties** dialog box.

Part 4: Add content to the draft message text box

1. Enter **DRAFT** in the text box.
2. Format the text to match the *Design Example* in the *Lab Guide*.
3. Save the page.




Part 5: Add content to the design layer

1. Select the text box and click the **Change Layer**  button on the Properties toolbar (located in the lower left corner of your screen).
2. Select **Draft to PDF** from the **Change Design Layer** box.
3. Click **OK**.
4. Save the page and close Designer.

Step 6: Package for the Exstream Viewer and view the output

1. Right-click the **Sweepstakes Flyer Application** and select **Package Application** from the shortcut menu.
2. Direct the **Package file** to `C:\101 Introduction to HP Exstream\Sweepstakes Flyer.pub`.
3. Package and run the application.
4. Browse through the message file.
5. Browse through the output.
6. Close the Exstream Viewer.
7. Close the **Building Production Package File** dialog box.

Part 7: Package for PDF and view the output

1. Right-click the **Sweepstakes Flyer Application** and select **Package Application** from the shortcut menu.
2. Click the **Run Engine When Complete**  button.
3. Select the **Compose file** check box.
4. Click the **File Selector**  button next to the **Compose file** box.
5. Browse to the `C:\101 Introduction to HP Exstream` folder.
6. Enter `Sweepstakes Flyer.pdf` in the **File name** box and click **Open**.
7. Click **OK** to close the **Run the engine** dialog box.
8. Select the **Specify output** radio button.
9. Click the **Specify Output (Printer)**  button.
10. Select **PDF** and click **OK**.
11. Click **OK** to package and run the engine.
12. Browse through the messages.
13. Close the messages and the **Building Production Package File** dialog box.
14. In Windows Explorer, browse to the `C:\101 Introduction to HP Exstream` folder and view the PDF output.



Submit an object for approval.





CHALLENGE EXERCISE

TASK	SPECIFICS
Submit an object for approval.	Submit the Sweepstakes Flyer Page for approval.

1. Browse to the **Exstream > Class Exercises > Module 5 > Pages** heading.
2. Right-click the **Sweepstakes Flyer Page** and select **Submit for Approval** from the shortcut menu.
3. Enter **Submission Test** in the **Approval, rejection, and version notes** text box.
4. Click **OK**.



Match the status symbol to the correct version. Use the **Sweepstake Flyer Page** to complete this exercise.

A.		___ The object has been rejected.
B.		___ The object is a work-in-progress.
C.		___ The object has been approved.
D.		___ The object has been submitted for approval.

Module 6: Addressing issues and finding solutions

Identifying troubleshooting tools

Learning how to use the HP Exstream troubleshooting tools can enhance your performance and improve your productivity.

Objectives

After you complete this lesson, you should be able to do the following:

- ♦ Identify tools to use to correct an issue.
- ♦ Describe how to identify an issue.
- ♦ Solve problems on your own.

Additional information

For more information on this topic, refer to the following guides:

- ♦ *System Administration* guide
- ♦ *Troubleshooting* guide
- ♦ *Troubleshooting* chapter of each guide

Modules

In addition to HP Exstream, we will discuss the following modules in this lesson:

- ♦ Exstream Compare
- ♦ Exstream Batch Compare

Describing and identifying issues

Before troubleshooting any type of issue, you must identify and assess the problem area and the phase of the application development cycle during which it occurs.

To identify a troubleshooting issue:

- ♦ Collect and document the symptoms and results.
- ♦ List the steps that lead to the problem.
- ♦ Determine if you can reproduce the issue.

By narrowing the area of the problem, you can follow procedures for testing the possible causes and define a solution.

Tools for troubleshooting

HP Exstream includes a number of tools that can help you troubleshoot problems. The table below lists the tools and their benefits.

TROUBLESHOOTING TOOLS

TOOL	FUNCTION
Message File and Message Dictionary	Shows you all the messages the engine generates while processing the application.
Trace/Watch/Debug	Provides the ability to observe objects during the local Engine run.
Virtual Memory Usage Log	Helps troubleshoot "out of memory" errors when running the local engine.
Table Analyst	Reviews a table after it has been designed and informs you of the location of potential design problems.

Exstream Compare and Exstream Batch Compare modules

The optional compare modules let you compare two composed output files from two different engine runs. Minor changes and updates can affect the composition of a document. You can compare individual documents side-by-side, or you can create a summary of all the differences in an entire run.

TOOL	FUNCTION
Exstream compare	Compares two documents, side-by-side, in Designer. The differences for each page are displayed on screen.
Exstream batch compare	Provides a summary of the differences between two documents over two entire production runs

Solving problems on your own

The documentation and the Maintenance Release Notes may also help you solve problems with your documents.

Searching the Maintenance Release Notes

These notes list issues reported and corrected in periodic maintenance release updates to the software. Use the Maintenance Release Notes if you believe you are experiencing a defect in the product. You can consult this document to confirm that Support has corrected a defect. You can download the Maintenance Release Notes when you download the update.

Using documentation and help

The guides in the documentation set contain feature definitions, systematic instructions for common software tasks, and a detailed explanation of interfaces. The guides are available in PDF format for viewing on screen or as printable hard copies. You can access the documentation guides through the documentation set folder. The documentation set is fully searchable. HP updates these guides monthly to maintain accuracy and clarity.



Make sure that your version of the documentation matches the version of HP Exstream you are using.

Searching the guides

If you use **Adobe Acrobat** to view the guides in PDF format, you can take advantage of its **Search** feature.

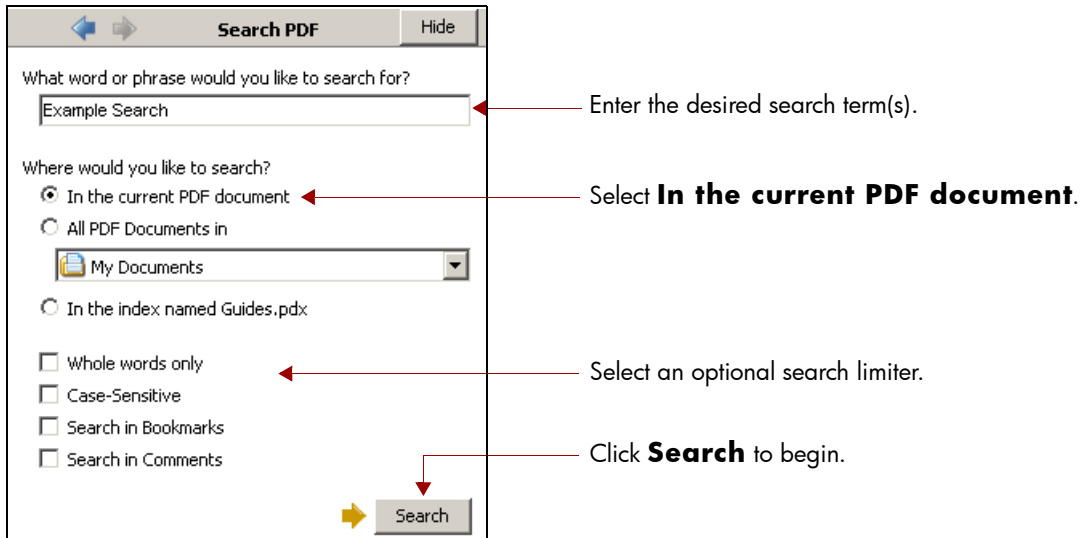
You can search:

- ♦ A single guide
- ♦ Multiple guides at once

Searching through a guide

To search through a guide, click **Edit > Search** from the Main toolbar. The **Search PDF** sidebar appears.

Search PDF sidebar in Acrobat

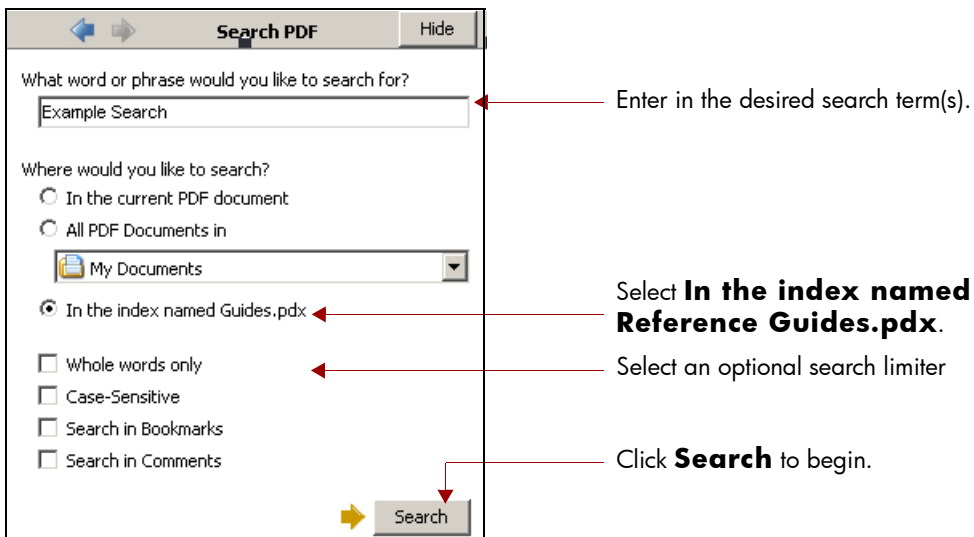


The search results, if any, display in the **Results** area. You are taken to the document section linked in the selected search result.

Searching through multiple guides

To search through multiple guides, open the Documentation Catalogue from the **Start** menu. When the catalogue opens, the **Search PDF** sidebar appears to the right of the screen.

Search PDF sidebar in Acrobat



The search results, if any, display in the **Results** area. You are taken to the document section linked in the selected search result.

Learning check: Identifying troubleshooting tools



Match the term to its definition. Use each term only once.

- | | | |
|-------|---|---|
| _____ | Compares individual pages from documents in the design environment. | A. Message file and Message Dictionary |
| _____ | Reviews a table after it has been designed, and informs you of the location of potential design problems. | B. Trace/Watch/Debug |
| _____ | Shows you all the messages the engine generates while processing the application. | C. Virtual Memory Usage Log |
| _____ | Provides the ability to observe objects during the local engine run. | E. Exstream batch compare |
| _____ | Compares two documents in their entirety and provides a summary. | D. Exstream compare |
| _____ | For troubleshooting "out of memory" errors when running the local engine. | F. Table Analyst |

Troubleshooting data issues

Learning how to use HP Exstream tools to identify and correct data issues can improve your productivity.

Objectives

After you complete this lesson, you should be able to do the following:

- ♦ Identify common data issues.
- ♦ Identify the tools that can be used to troubleshoot data.

Terms

New terms used in this lesson include:

- ♦ **Trace**—A process used in troubleshooting timing issues that records the activities of the engine during a test run.
- ♦ **Watch**—A process used in troubleshooting that reviews and reports selected variables and rules during a test run.

Additional information

For more information on this topic, refer to the following guides:

- ♦ *Troubleshooting* guide
- ♦ *Variables* guide
- ♦ *Data Files* guide

Identifying common data issues

Some examples of common data issues include:

ISSUES AND RESOLUTIONS OF COMMON DATA PROBLEMS

ISSUE	RESOLUTION
The format of your data mapping does not match the format of the actual data. For example, the data format is MM/DD/YY and the data is MM/DD/YYYY.	Change the format of the variable to match the format of the actual data.
Variables that represent transaction data appear incorrectly in final output.	Only use array variables when multiple values are specified for a customer or data sections. Arrays reset after each section while non-array variables do not.

These issues, along with others, are found in the *Troubleshooting* guide.

Identifying data troubleshooting tools


Use the following HP Exstream functions and features to analyze and troubleshoot data:

TOOL	BENEFIT
Message File and Message Dictionary	Shows all the messages the engine generates while processing the application.
Trace/Watch/Debug	Provides the ability to observe objects during the local engine run during test mode.
<i>Troubleshooting</i> guide	Provides helpful troubleshooting information.

You can find data-related troubleshooting information under the following headings:

- ◆ *Variables, Data Files, and Data Mapping*
- ◆ *Programming in HP Exstream, Dynamic Data Access*
- ◆ *ODBC Access*
- ◆ *Installation, Upgrade, UpdateDB*
- ◆ *Applications – Designing and Troubleshooting*
- ◆ *Watch and Trace Variables*

When you use the HP Exstream Trace/Watch/Debug feature, you can observe objects during the local engine run. This helps you locate errors in your applications. You can specify Watch and Trace options on variables and any rule. Since variables and rules can exist on any object that accepts them, these features provide you with a way to see where your variables exist in the output.

You can access the Trace/Watch/Debug options from the **Run the engine** dialog box, accessible by clicking  on the Standard toolbar.

Trace/Watch/Debug options on the Run the engine dialog box

The screenshot shows the 'Run the Engine' dialog box with several tabs. The 'Debug/trace' tab is highlighted with a red circle. The tabs include:

- Basic options** (any options set in the control file will take precedence):
 - Control file: []
 - Package file: []
 - Compose file: []
 - Key file: []
 - Customers: 1 to 10 by 1
 - Functions: Compose documents
 - Run date: July 10 2007
 - Mode: Local
 - Create output: Yes
 - Error stop level: Severe
- Tracking**:
 - Track results: None
 - Track file: []
 - Tracking input: Database
- Testing**:
 - Rule analysis: RuleAnalysisReport.txt
 - Detailed: [] Sort by: Unexecuted Lines
 - Capture test data: []
 - Customers per rule statement: 1
 - Reporting level: Summary
 - Report file: TestDataCaptureReport.txt
 - Optimization Level: Normal
- View message file**:
 - When: Ask [] Group messages []
 - Which: Information [] No repeats []
 - View output when complete (if no errors and composing for Exstream viewer or alternate viewer) [x]
- Reports and messages**:
 - Message file: ExstreamMessages.dat
 - Message level: All (info, warning, and error)
 - Report file: ExstreamReport.dat
 - Reporting level: Selection summary
- Debug/trace** (highlighted):
 - Debug file: ExstreamDebug.txt
 - Trace logic: [x]
 - Document []
 - Page []
 - Frame []
 - Message []
 - Camnainn []
 - Trace data: []
 - Watch level: Variable

Buttons: OK, Cancel

Note:

This feature cannot be used with the production engine due to performance considerations. You can use the options in this area in test mode only to debug your application.

Watch variables

You set **Watch level** properties for variables on the **Basic** tab. You can select from the following watch levels:

- ♦ **None**—Avoid watching this object. This is the default setting.
- ♦ **Changed**—Write output to the debug file only when the variable value changes.
- ♦ **Set**—Write output to the debug file whenever the variable is set, regardless of whether it changes or not.

Code trace for variables

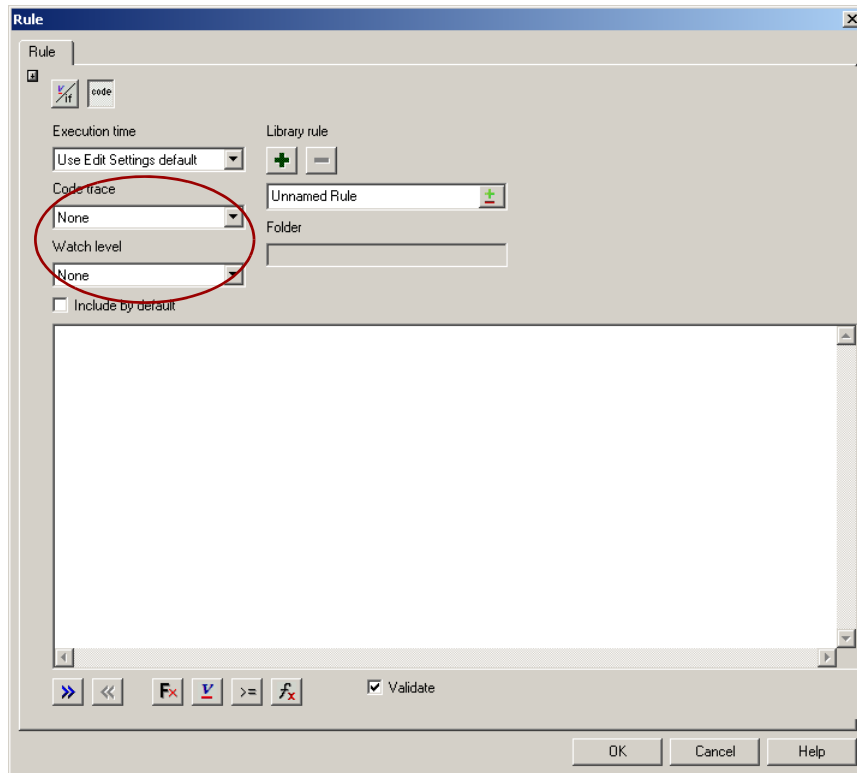
You set **Code trace** properties for variables on the **Values** tab. You can select from the following code trace options:

- ♦ **None**—The formula/rule code is not traced. This is the default option.
- ♦ **Source line**—Each line of the formula/rule writes to the debug file as it executes.
- ♦ **Assignment**—Each line of the formula writes to the debug file as it executes, along with the variables as they are used.
- ♦ **All variables**—Each line of the formula writes to the debug file as it executes, along with the values of variables as they are used.

Watch and Trace rules

You specify **Watch** and **Trace** options on rules on the Code panel.

Code Panel



Watch rules

You can select from the following options in the **Watch level** drop-down list:

- ◆ **None**—Avoid watching this object. This is the default setting.
- ◆ **Fired**—Write output to the debug file when the rule is invoked.

Code trace for rules

You can select from the following **Code trace** levels for rules:

- ♦ **None**—Avoid tracing this object. This is the default setting.
- ♦ **Source line**—Provides the rule line numbers where variables are impacted by the rule.
- ♦ **Assignment**—Shows variables that are to be watched as they are affected by the rule.
- ♦ **All variables**—Shows all variables affected by the rule regardless of that variable's watch indicator.

Note:

All variables appears only if your variable **Data type** is **Formula**.



Observe the demonstration.

Troubleshooting design issues

Using HP Exstream tools to analyze and identify problem areas in your composition and layout lets you correct these issues prior to production.

Objectives

After you complete this lesson, you should be able to do the following:

- ◆ Identify common design issues.
- ◆ Identify the tools that can be used to troubleshoot design.
- ◆ Access the *Troubleshooting* guide for related design issues.
- ◆ Use the Table Analyst tool.
- ◆ Identify the functions and benefits of using Exstream Compare.
- ◆ Identify the functions and benefits of using Exstream Batch Compare.

Terms

Terms discussed in this lesson include:

- ◆ **Relativity**—The ability of objects to remain a specific distance from each other as they grow or move.
- ◆ **Spacing**—The property possessed by an array of objects that have space between them.
- ◆ **Table Analyst**—A tool in Designer used to locate potential table design problems.

Additional information

For more information on this topic, refer to the *Troubleshooting* guide.

Modules

In addition to the HP Exstream, we will discuss the following modules in this lesson:

- ◆ Exstream Compare
- ◆ Exstream Batch Compare

Identifying common design issues

Common design issues may include:

PROBLEM	SOLUTION
My page is simplex, but I need it to be duplex.	<ul style="list-style-type: none"> If you are in Design Manager, open your page in the Property Panel. Go to the Basic tab and select the Duplex check box. If you are in Designer, open the Designer Options dialog box. Select the Duplex check box.
My pages aren't in the order expected.	The default method for determining page order is the order in which pages appear under the document in the Library. However, you can also specify that a page appears in a certain location in the Edit Panel. Open the document in the Edit Panel and double-click in the right column. In the Document Page Properties dialog box, select Specified Page Number and enter the page number of the page.

These issues, along with others, are found in the *Troubleshooting* guide.

Identifying design troubleshooting tools

Use the following HP Exstream functions and features to analyze and troubleshoot design objects:

TOOL	FUNCTION
<i>Troubleshooting</i> guide	Provides helpful troubleshooting information.
Message File and Message Dictionary	Shows you all the messages the engine generates while processing the application.
Table Analyst	Reviews a table after it has been designed and informs you of the location of potential design problems.
You can also use the following optional module:	
Exstream Compare and Exstream Batch Compare	Compare two composed output files from two different engine runs.

Accessing the Troubleshooting guide

The *Troubleshooting* guide contains helpful information on common issues and solutions. It also includes content on how the engine works and a series of how-tos, which relate to many tasks used throughout HP Exstream.

You can find information on troubleshooting issues under the following headings:

- ◆ *Charts – Designing and Troubleshooting*
- ◆ *Design Operations, Design Components, Graphics, Text Formatting and Text Boxes*
- ◆ *Document Composition – Designing and Troubleshooting*
- ◆ *Fonts – Using and Troubleshooting*
- ◆ *Frames and Dynamic Frames*
- ◆ *Messages – Designing and Troubleshooting*
- ◆ *Pages – Designing and Troubleshooting*
- ◆ *Quark*
- ◆ *Tables, Statements, and Section-Based Processing*
- ◆ *Templates – Designing and Troubleshooting*
- ◆ *Viewing Composed Files*

Using the Table Analyst tool

The Table Analyst reviews a table after it has been designed and informs you of the location of potential design problems.

Note:

Table Analyst can be run only on tables placed directly on a page. Table Analyst cannot be run on tables that have been embedded within other tables or text boxes.

By enabling Table Analyst, you ensure that your tables have been reviewed and any potential errors are identified prior to production. This feature can be set to run manually or automatically when designing or editing a table.

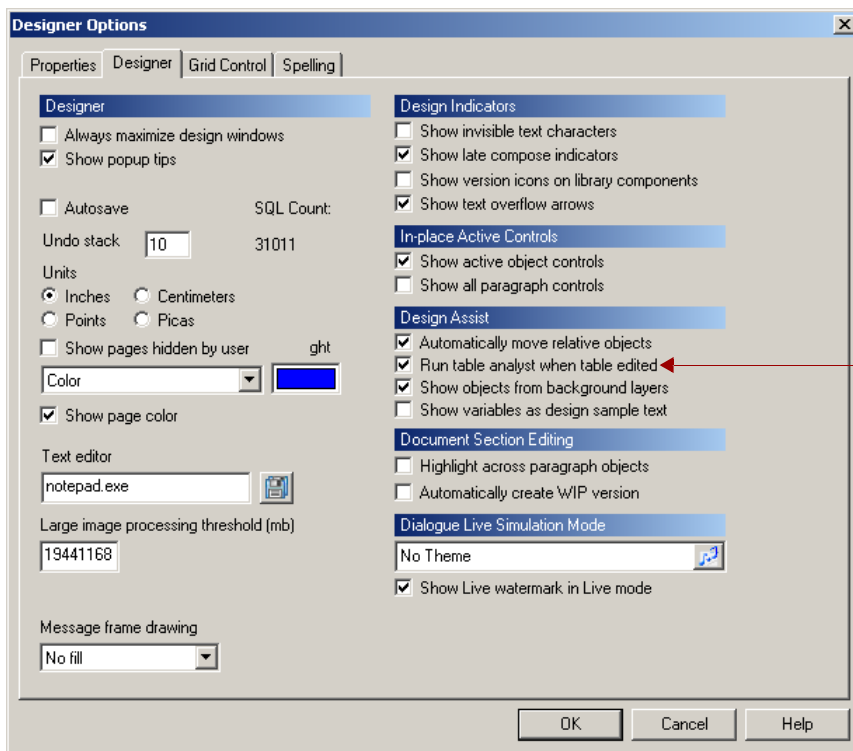
Running Table Analyst manually

To run Table Analyst manually, right-click the table and select **Table Analyst** from the shortcut menu. Messages indicating success or errors display accordingly.

Running Table Analyst automatically

To run Table Analyst automatically, click the Status bar. The **Designer Options** dialog box opens. Click on the **Designer** tab and select the **Run table analyst** when table edited check box.

Designer Options dialog box



Enables Table
Analyst

Identifying the benefits and functions of Exstream Compare

Minor changes and updates can affect the composition of a document. The optional Exstream Compare module provides you with a way to compare documents in the design environment. By comparing documents using this module, you can ensure that changes to a document do not affect the design of the page.

You can compare Exstream Composition Format (ECF) files in Designer to contrast composed output from two different engine runs. Exstream Compare is intended for comparisons of partial or sample output.

Note:

Access to Exstream Compare is enabled through your system key.

ECF files are generated when you package an application and run the engine to produce output using the Exstream Viewer as the output device.



Give the second ECF file a different name or HP Exstream overwrites the first ECF file.

Before you can perform a comparison:

1. Package and run the original application.
2. Make your design or version changes.
3. Package and run the modified application.

HP Exstream compares the files and issues a message showing:

- ♦ The number of pages changed
- ♦ Pages added or removed

Identifying the functions and benefits of Exstream Batch Compare

Minor changes and updates can affect the composition of a document. The optional Exstream Batch Compare module provides you with a summary of the differences between two documents over two entire production runs.

The Exstream Batch Compare module is intended for full comparisons of production output because it runs faster than Exstream Compare.

Note:

Access to HP Exstream Batch Compare is enabled through your system key.

ECF files are created when you package an application and run the engine.

Before you can perform a comparison:

1. Package and run the original application.
2. Make your design or version changes.
3. Package and run the modified application.

After generating ECF files, you can compare them by running the **CompareECF.exe** executable with a batch control file. At a minimum, the control file must include the -COMPARE and -KEY switches.



Observe the demonstration.

Troubleshooting packaging and production issues

An understanding of the messages produced during packaging and at engine run-time will help you diagnose problems with your application. Additional functions enable you to pinpoint errors in production with user-defined levels of detail.

Objectives

After you complete this lesson, you should be able to do the following:

- ◆ Identify common packaging and production issues.
- ◆ Identifying the tools used to troubleshoot packaging and production.
- ◆ Set and use message files and the **Message Dictionary**.
- ◆ Use the **Trace/Watch/Debug** feature during packaging and at engine run-time.

Terms

New terms used in this lesson include:

- ◆ **Debug file**—A file that is generated during debug that contains variables, rules, and formulas as they are applied to objects.
- ◆ **Message Dictionary**—An HP Exstream help feature that you can use to look up engine messages and possible corrective actions.
- ◆ **Message file**—A system-generated log that records the messages produced by the engine at run-time.

Additional information

For more information on this topic, refer to the following guides:

- ◆ *Production Environment* guide
- ◆ *Troubleshooting* guide

Identifying common packaging and production issues

Common packaging and production issues may include:

PROBLEM	SUGGESTION
Message states key is invalid	You can run the engine for any package file. However, sometimes the key used to package the file expires and you must update the key in order to run the engine for the specified file. To run the engine for a package file with an expired key, specify a valid key file in the Key file box on the Run the Engine dialog box.

This issue, along with others, is found in the *Troubleshooting* guide.

Identifying packaging and production troubleshooting tools

Use the following HP Exstream functions and features to analyze and troubleshoot packaging and production:

TOOL	BENEFIT
Message file and Message Dictionary	Shows all the messages the engine generates while processing the application.
Trace/Watch/Debug	Provides the ability to observe objects during the local engine run.
Virtual Memory Usage Log	For troubleshooting "out of memory" errors when running the local engine.
<i>Troubleshooting guide</i>	Provides helpful troubleshooting information.

You can find packaging and production troubleshooting information under the following headings:

- ♦ *Applications – Designing and Troubleshooting*
- ♦ *Output Sorting, Reprint, and Bundling*
- ♦ *Output, Printers, and PDLs*
- ♦ *Packaging, Control Files, and Running the Engine*
- ♦ *Publication Support*
- ♦ *Viewing Composed Files*

Setting and using message files and the Message Dictionary

You can generate a message file at engine run-time. This system-generated file can be used to troubleshoot problems encountered while running the engine.

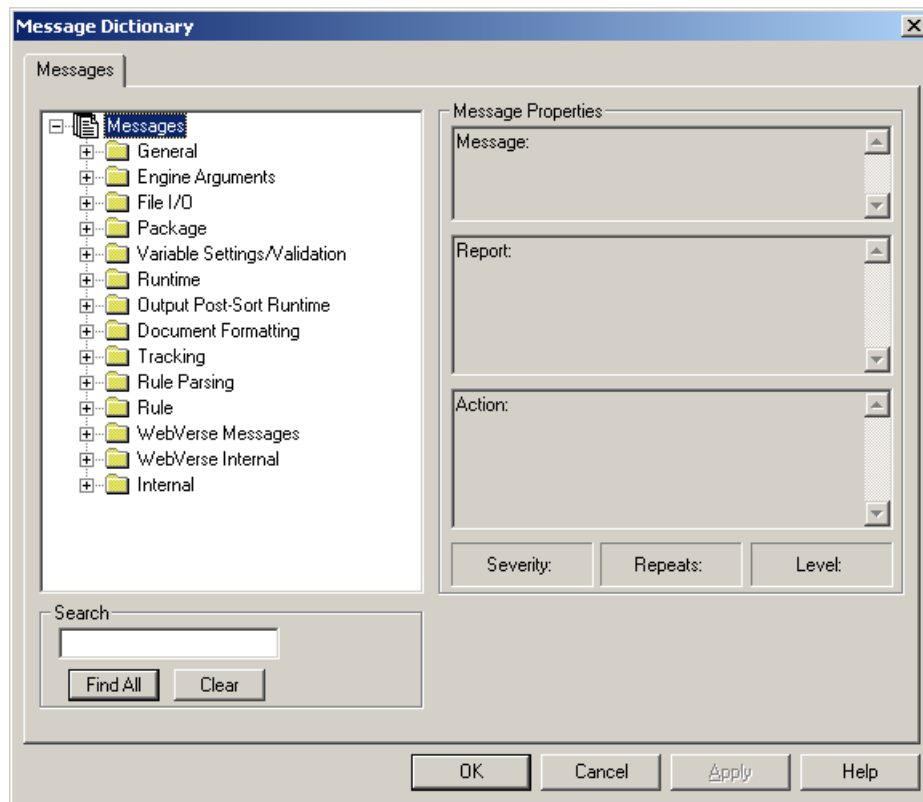
Message files contain:

- ♦ The date the engine was run.
- ♦ A summary of the options specified.
- ♦ Information about the package file used.
- ♦ Message files contain references to the **Message Dictionary**.

The Message Dictionary

The Message Dictionary contains all engine messages, organized in a category tree.

Message Dictionary

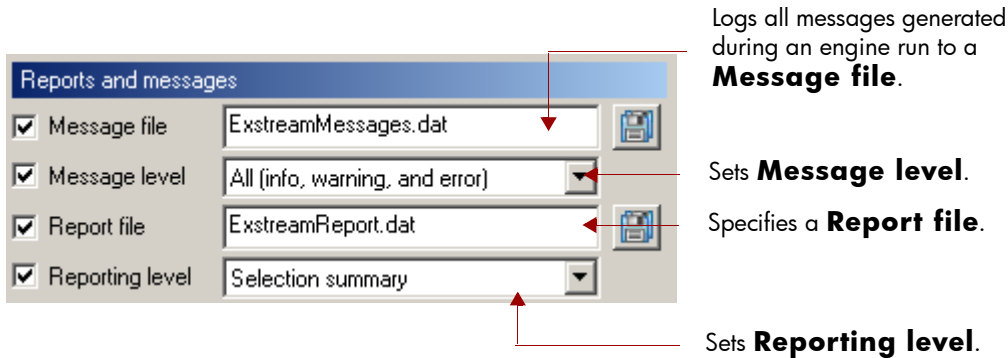


To access the **Message Dictionary**, click **Help > Message Dictionary** from the Menu bar. The **Message Dictionary** opens.

Message file options

You can set options for your message file from the **Run the Engine** dialog box prior to engine run-time.

Reports and messages area in the Run the Engine dialog box



You can view the message file in any text editor.

Message level options

The options on the **Message level** drop-down list enable you to control the level of detail that is provided in the message file, depending on the severity of the message. The options are:

- ♦ **All (info, warning, and error)**—Reports all messages generated by the engine.
- ♦ **Warning and error**—Reports only warning and error messages.
- ♦ **Error only**—Reports only error messages.
- ♦ **None**—No message file is generated.

These options can also be controlled by using the -MESSAGEFILE and -MESSAGELEVEL engine switches.

Using Trace/Watch/Debug

Trace/Watch/Debug can be used to:

- ♦ Observe objects during the local engine run.
- ♦ Locate errors in your applications.

There are two parts to this feature: a trace capability and the ability to place a watch on key HP Exstream objects.

When you use this feature, you receive a report at the completion of an engine run. The contents of the report you receive depends on the options selected on the **Run the Engine** dialog box and on the watch and trace settings on individual objects.

Note:

You cannot use Trace/Watch/Debug in production, as this information is not compiled. The options are available only in this area during test mode.

Debug files

A debug file contains information about the variables, rules, and formulas applied to objects in an application. This feature is vital when you need a better understanding of the order of events when running the engine. You specify various levels of detail and which objects to include from the **Run the Engine** dialog box.

When you select the **Debug file** check box, the **Trace** and **Watch level** options become available.

Trace options

The **Trace** function lets you record the engine processing during a test run. It is useful in identifying timing issues. This option can be vital when a better understanding of the order of events is needed.

The trace options available on the **Run the Engine** dialog box enable you to trace any number of objects. In addition, you can restrict the trace to processing during specific times; for example, while a page is being composed. Using trace options lets you isolate any problems to certain objects.

The generated report file can be viewed or printed using any standard text editor.

Learning check: Troubleshooting packaging and production issues

Here are your requirements. Prior to using HP Exstream, discuss how to complete them.

REQUIREMENTS	IN HP EXSTREAM
Build the application and review it for errors.	
Move the address block.	
Fix the graph.	
Fix the inclusion rules for the voucher text box.	
Fix the table's totaling code for the YearlyBalance variable.	
Fix the inclusion rules for the voucher.	
Map the missing data in the Reference file.	
Fix the mismatched record IDs for Mark Holly.	
Build the modified application and review it for errors.	



To complete the following exercises:

- Refer to the **101 Lab Guide** and make sure you are working in the Module 6 folder.
- Complete the Troubleshooting Packaging and Production exercise.
- Use each task's corresponding step-by-step instructions if you need help.



Complete the following troubleshooting exercises. This is an eight-part exercise.

TASK	SPECIFICS
Package an application and run the engine.	<ul style="list-style-type: none"> • Package the Year End Statement application. • Run the Engine.
View the output.	<ul style="list-style-type: none"> • Review the output to see what needs to be changed.
Common design issues: Moving a component	<ul style="list-style-type: none"> • Make the address block an unnamed component. • Move the address block to the left.
Common design issues: Text Box inclusion rules	<ul style="list-style-type: none"> • Go to the text box properties. • Go to the Rules tab and add the rule.
Common data issues: Missing data input	<ul style="list-style-type: none"> • Open the Reference file in the Edit Panel. • Map the 'Q2Balance' variable.

TASK	SPECIFICS
Common data issues: Modify a data file.	<ul style="list-style-type: none"> • Open the Reference file in the editor. • Fix the account number to match Mark Holly's record.
Package an application and run the engine. View the output in the Exstream Viewer.	<ul style="list-style-type: none"> • Package the Year End Statement application. • Run the Engine. • Review the output to observe the changes.

Part 1: Package an application and run the engine

1. Expand the **Exstream > Class Exercises > Module 6 > Applications** heading.
2. Package the **Year End Statement Application**.
3. Browse through the message file.
4. Make a note of the message that may be related to "Problems with the Year End Application."

Part 2: View the output

1. Browse through the output in the Exstream Viewer.
2. Make notes on output that may be part of "Problems with the Year End Application."



Part 3: Common design issues: Moving a component

Move the address block to the left so it lines up with the table.

1. Expand the **Exstream > Class Exercises > Module 6 > Pages** heading.
2. Drag the **Year End Statement** to the Edit Panel.
3. Right-click on the address block and select **Library component > Make Unnamed Copy**.
4. Left Align the address block with the table beneath it.
5. Save and close the page.
6. Package the application.
7. Browse through the message file.
8. Browse through the output.

Part 4: Common design issues: Text box inclusion rules


Fix the computation for the Voucher text.

1. Expand the **Exstream > Class Exercises > Module 6 > Pages** heading.
2. Drag the **Year End Statement** to the Edit Panel.
3. Right-click the **Service Voucher** text box and select **Text Properties**.
4. Click the **Rule** tab.
5. Click the **Rule Toggle Mode**  button.
6. Click the **Variable Palette**  button next to the **Variable** box.

7. Double-click **Yearly Balance** in the **Variable Palette** to import the variable.
8. Select **greater than or equals** from the **Condition** drop-down list.
9. Enter **1400.00** in the **Compare to** box.
10. Click **OK** to close the Text Properties dialog box.
11. Save and close your page.


Part 5: Common data issues: Map missing data

Map the missing 'Q2Balance' variable to the **Yearly Balance** data file.

1. Expand the **Exstream > Class Exercises > Module 6 > Data Files** heading.
2. Drag the **Yearly Balance** data file into the Edit Panel.
3. Double-click 300.50 at the top of the third field.
4. Click the **Variable Palette**  button.
5. In the **Variable Palette**, find and double-click 'Q2Balance'.
6. In the **Data Area Properties** box, click **OK**.
7. Save your data file.
8. Close the Edit Panel.
9. Package the application.
10. Browse through the message file.
11. Browse through the output.

Part 6: Common data issues: Modify a data file

Correct **Mark Holly's Account ID** in the **Yearly Balance** data file.

1. Expand the **Exstream > Class Exercises > Module 6 > Data Files** heading.
2. Drag the **Yearly Balance** data file into the Property Panel.
3. Click the **Test Data Source** tab.
4. Click the **Text Editor (Magnifying Glass)**  button.
5. Change the first field on the fourth row from **389400** to **389456**.
6. Save and close Notepad.

Part 7: Package an application and run the engine

1. Expand the **Exstream > Class Exercises > Module 6 > Applications** folder.
2. Package the **Year End Statement Application**.
3. Browse through the message file.
4. Browse through the output in the Exstream Viewer.

