skywire® SOFTWARE

Documaker

Documaker Studio User Guide

version 11.2

Contents

Chapter 3, Working with Business Units

Chapter 4, Working with Group Forms

Chapter 5, Managing Forms

Chapter 6, Working with Images

Chapter 7, Working with Logos

Chapter 8, Creating Scripts

Chapter 9, Managing Resources

Chapter 10, Using Dictionaries

Chapter 15, Testing Your Forms

Chapter 16, Deploying a Library

Using Documaker Studio

Documaker Studio is a multi-user forms development system that promotes workgroup and team-based development methodologies. Documaker Studio tackles the complex development process for building and maintaining large electronic forms libraries.

Documaker Studio is designed for forms and business analysts who work to meet the requirements defined the compliance group and create the dynamic document applications that are provided to the production operations teams.

This document includes information on these topics:

INTRODUCTION

Documaker Studio provides a new and integrated way to create and maintain the images, logos, fields, and other objects you use in your form sets. Studio also provides tools for managing these objects in libraries and for testing and deploying form sets.

> **NOTE:** Licensed users of Documaker (RP) Server or Documaker (RP) Workstation, and Docucreate (RP) are eligible to receive Documaker Studio as part of their maintenance agreement. The Documaker product has a high degree of compatibility with the DAP (Document Automation Platform) Solution Suite. DAP users should check with their account representative to explore the advantages of upgrading to Documaker.

The main features and benefits of Studio include:

- *Seamless workbench*. While its predecessor provided a menuing system to access all of the graphical tools and many of the conversion tools, Studio greatly enhances the way the tools work together. For example, you can now drag and drop a field database entry onto an image. Furthermore, you can have several tools, and even multiple copies of those tools, open at the same time.

- *Editing Forms*. Studio makes it easy to edit forms by providing easy access to both the tree view and graphical view of the selected form components, as well as a Trigger wizard for specifying trigger logic. SetOrigin specification of the absolute or relative placement of image sections (FAP files) is now done visually. Header, body, and footer images are automatically organized into a easier to manage tree view. Image and form attributes are easier to access and modify. Recipients are easier to specify. Multi-user development is easier since each developer can work on one or more forms at a time without impacting other developers.

- *Configuring INI options*. You can now load and maintain the INI options which control your system from inside Studio. You can maintain these options at the global (system), local (unique to a developer), or deployment (specifying unique platforms, data sources, locations, and devices) level.

- *Creating DAL Scripts*. DAL (Document Automation Language) offers a high degree of power and flexibility for form and section triggering logic and also for data manipulation and formatting. While other means of triggering sections and manipulating data are still supported, you'll enjoy the benefits and ease of use DAL offers. Studio includes a powerful new script editor for maintaining DAL libraries, including effective date version control and check-in and check-out.

- *Visual Debugger*. Dynamic documents cannot truly be viewed without running the rules against test data. Studio includes a new visual testing tool that makes it easy to see how documents will look when run against real data. The ability to set break points and view internal variables while watching the document assemble visually makes it easy to debug problems in the form design.

- *Import Wizards*. The version 11.0 runtime works with older configurations, however, taking advantage of the new Studio and its new files requires a forward migration. Studio includes powerful wizards to make it quick and easy to move an existing implementation forward to version 11.0 library members.

- *Form-level effective dates.* Effective date based version control (including check-in, check-out, and expiration) can now be applied to forms. Previously this capability applied only to sections of forms, such as FAP files, and their related DDT files. Many implementations creatively combined a large number of physical images into a more complex logical form, and the need for effective date versioning at the true form level became apparent. Adding this capability requires a new library member: the *form* (FOR) file and a new tool to maintain the objects and attributes of that file.

- *Multi-user form development.* Versions prior to 11.0 stored form level attributes in a number of places: the FORM.DAT file, the SETRCPTB.DAT file, other supporting tables, and DDT files. By consolidating logical form attributes into a single file, not only is it possible to do effective date version control on a form, but it is also easier to facilitate multi-user form development.

- *New files.* The elimination of the FORM.DAT and SETRCPTB.DAT files and the introduction of FOR files also resulted in the addition of two new types of resource members: the *base definition* (BDF) file which defines the combinations of keys that represent the business units into which the forms are assembled, and the *group* (GRP) file which provides the default ordering sequence for the form candidates that are available to each business unit.

- *Eliminating DDT files.* DDT files were introduced as a way to isolate variable data tag information that would be applied to static form overlays. By separating this information from the FAP files, it was possible to achieve a higher degree of performance in simpler implementations. Over time, as advanced formatting capabilities were devised to meet customer needs, it became necessary for the FAP files to be available at runtime because more and more documents began to be subject to dynamic composition at runtime. The DDT file became less of an advantage, and even a stumbling block within implementations.

  In spite of synchronization facilities in the tools, some implementations struggled to keep DDT and FAP files in sync. With version 11.0 and the introduction of the FOR file, DDT files are eliminated. Image and field-level DDT rules previously stored in the DDT file are now either unnecessary or are stored in the FAP file. Having image level rules (such as SetOrigin) in the FOR file makes it easier to do visual form design. Having field level rules in the FAP file eliminates synchronization worries.

The following pages discuss some of these enhancements in more detail.

STUDIO OPTIONS

Most options in Documaker Studio are used to create the resource objects that make up a Master Resource Library (MRL). The options appear when you open a workspace:

The options you can use are listed here

You can also select these options from the Manage menu
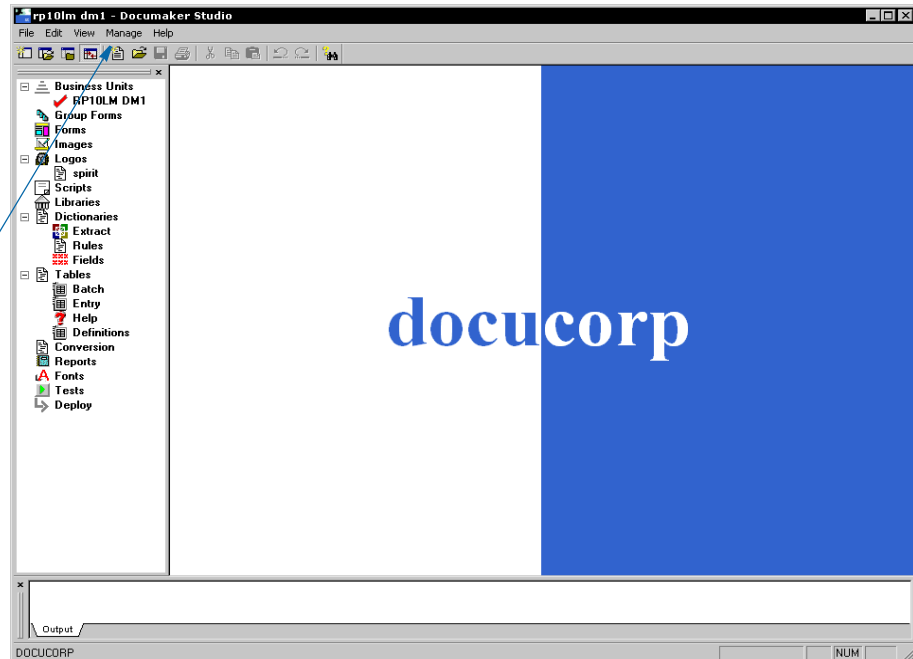
These resource objects are eventually used during the form entry process (Documaker Workstation) or in the forms processing cycle (Rules Processor). In some cases, the objects are used during both processes.

Option	Used to	Used during form Entry	Processing	Required?
Business units	Define valid key combinations.	Yes	Yes	Yes
Group forms	Define the list of forms available to a business unit.	Yes	Yes	Yes
Forms	Create a list of the images that comprise the form and to store triggering information.	Yes	Yes	Yes
Images	Create and manage the images that make up the forms.	Yes	Yes	Yes
Logos	Resize, reverse, rotate, and manipulate bitmap graphics used on images.	Yes	Yes	No
Scripts	Create scripts to automate tasks. You create these scripts using the Document Automation Language (DAL).	Yes	Yes	No

Option	Used to	Used during form Entry	Processing	Required?
Libraries	Manage the libraries that contain the forms, images, logos, and other resources.	Yes	Yes	Yes
Dictionaries	Create and maintain mapping information for runtime data files and common field information so setting up and creating variable fields is easier.			
Extract		No	Yes	?
Rule		No	Yes	No
Fields		Yes	Yes	No
Tables	Define the format and create the tables you use.			
Batch		No	Yes	No
Entry		Yes	No	No
Definitions		Yes	Yes	No
Conversion		Yes	Yes	No
Fonts	Create and maintain the table which serves as the bridge between the system and your fonts.	Yes	Yes	Yes
Tests	Define and process test situations that simulate your production environment.	Yes	Yes	No
Deploy	Help you move your finished libraries into production mode.	Yes	Yes	No

CREATING A MULTI-USER DEVELOPMENT ENVIRONMENT

Documaker Studio provides for multi-user development cycles. For several users to work on a given set of resources, the system must be able to manage the resources to prevent conflicts.

The key to effectively managing libraries of resources is in the files used to store information. These files are designed to facilitate multiple users throughout the life cycle of a project so you can move resources from development to testing and into production.

The FORM.DAT file defined the basic lines of business and the available list of forms for each of those lines. As such, there was too much information in this one file for it to be useful in a multi-user development environment. Therefore the FORM.DAT file, along with the SETRECIP.DAT (the trigger file), have been split into multiple components.

FORM.DAT file

Information about the lines of business → **Base definition file**

(*.BDF)

A list of the forms used for a lines of business and the order in which they should appear. → **Group file**

(*.GRP)

Form file

(*.FOR)

Information about the form itself, such as a list of the images that comprise the form and triggering information

SETRECIP.DAT file
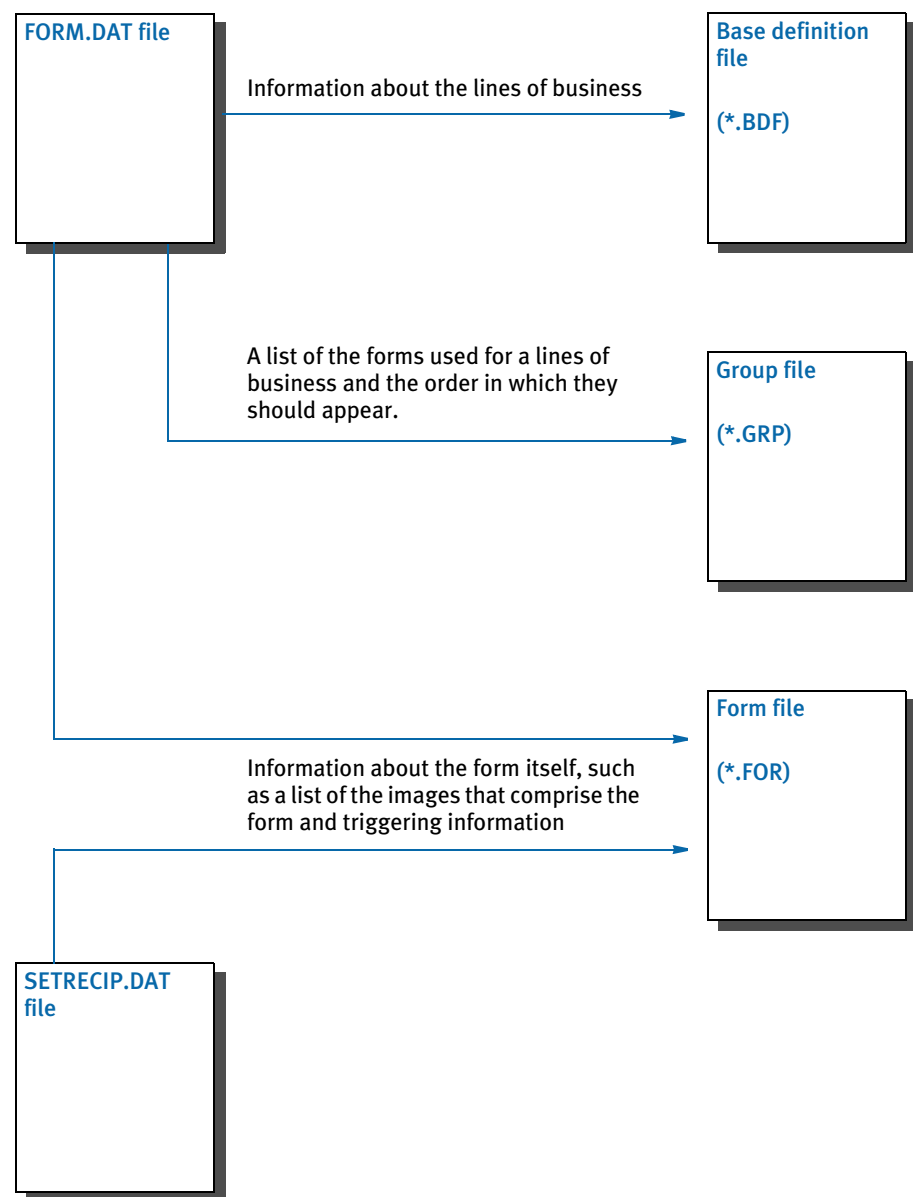
> NOTE: File names, types, and extensions, as well as menu names, options, and screen names may change during the development cycle.

Base definition files

The first component is a new file where you maintain what was formerly known as the *lines of business*. The extension and library type given to this file is BDF, which stands for *base definition file*. In Studio, you will see this listed in the workspace tree as *business units*.

A base definition file defines a valid key combination comprised of a Key1, a Key2, and eventually a Key3. These keys are typically known as Company, Lines of Business, and usually State, within the Insurance industry.

When you need to add a new line of business or business unit to a set of resources, you first check out the BDF file and then make the necessary changes to define a new business unit.

This file is relatively simple in design because there are not many options at this level. But because it is now a file type you can manage, you can now introduce new business units starting at a given date, which was not possible before.

See Working with Business Units on page 65 for more information.

Group files

The next new file type in the workspace tree is called the *group* file. Once you define your business units, you then associate each business unit with a list of candidate forms. This file is where you define the list of forms available to a given business unit. And you can arrange the forms in the order in which you provide them.

The extension and library type for these files is known as *GRP*.

To add or remove a form from a business unit, you simply check out the appropriate group (GRP) file and make those changes.

Since unit form order files are versioned and given effective dates, the list of candidate forms can vary based upon the date associated with a given transaction.

See Working with Group Forms on page 77 for more information.

Form files

The final new file type created from the FORM.DAT is known as the *form* file. These files have the extension and library type of FOR, which stands for *form*.

As a new file type in the library, you can maintain versions and revisions of a form. Effective dates are used to make sure you get the correct rendition of the form for that date.

In addition to form files containing the list of images that comprise the form, these files also contain the triggering information formerly stored in the SETRECIP.DAT file. This means that in addition to maintaining the image components, by checking this file out and back in, you automatically maintain the list of triggers used to generate specific layouts of the document.

The form file maintains the image options associated with the images that comprise the form and maintains the specific location (SetOrigin) information used to place the images correctly on the form.

As mentioned, via the Libraries option, Studio supports these new file types (BDF, GRP, and FOR). This means you can check the files in and out and provide effective dates for when each are to become available (or expire).

The date associated with a transaction is used to select the appropriate version/revision of the files to build the document set and each transaction can therefore differ if they have differing dates.

See Managing Forms on page 87 for more information.

INSTALLING STUDIO

If your system supervisor has not installed the system on your computer, you can do so easily, once you have made sure your computer has the correct hardware and software. Simply insert the CD-ROM into the appropriate drive and follow the instructions that appear on your screen.

NOTE: In most cases, the system supervisor will set up Studio on your computer for you. If you install the system yourself, check with your system supervisor to make sure any custom settings are configured correctly for your computer.

During installation, sample resource files are stored in the FMRes master resource library. Although you will likely set up your own resource libraries, do not delete these resources because the system may continue to use some of the files, such as the font cross-reference files (FXR).

Keep in mind...

- You must have Windows 2000 or later installed on your computer to run Studio.

- Installed under the \DLL directory are files needed to display INI configuration and help information. These files will continue to be updated with subsequent patch releases.

- There is a separate installation for Documaker RP and Documaker Studio.

- You can always find the latest installation information on the DOSS site.

STARTING STUDIO

When you first start Studio, the following window appears.
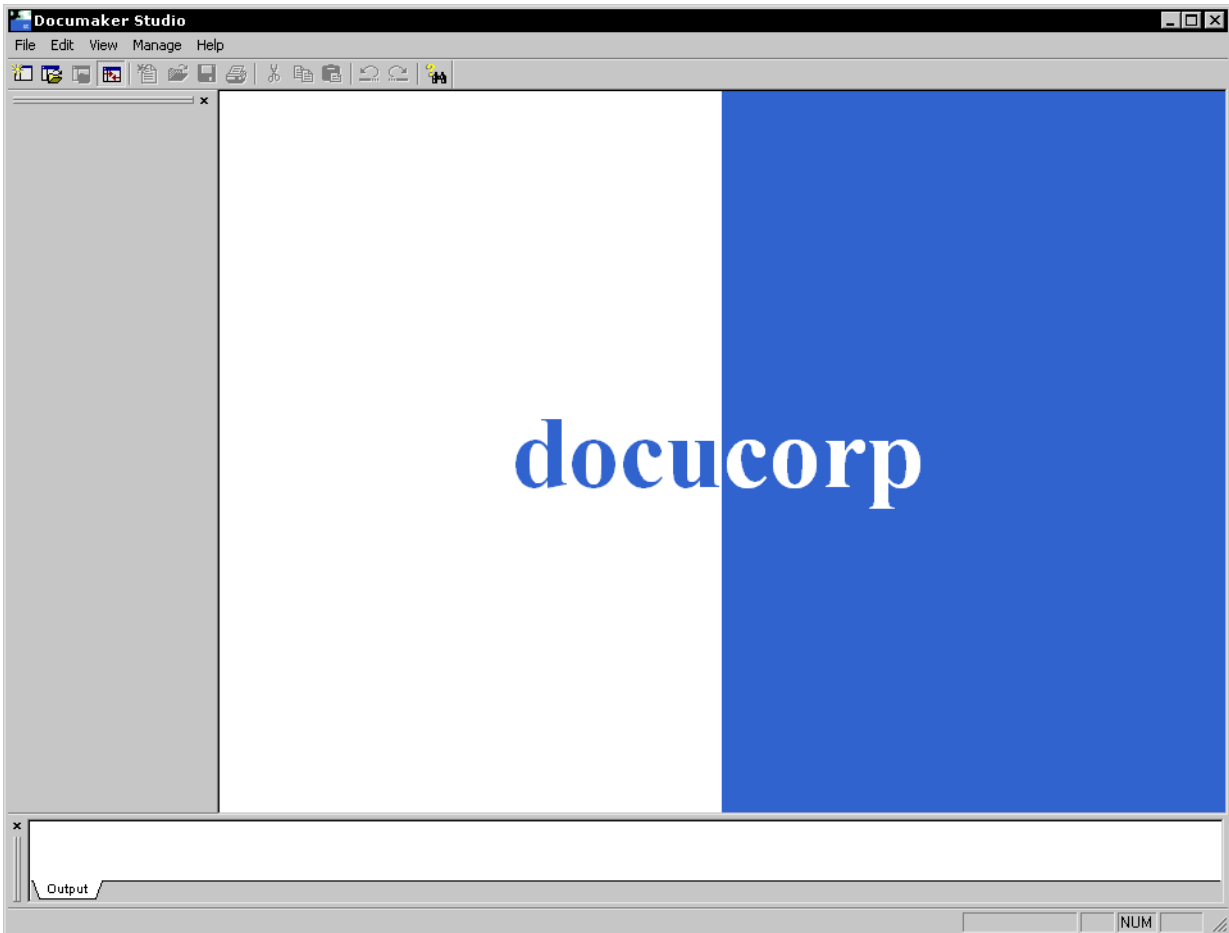
The first step is to open an workspace or create a new workspace.

NOTE: For detailed instructions on creating a workspace, see Creating Workspaces on page 24. For more information on joining a workspace, see Joining a Workspace on page 30.

You'll find the options to open or create workspaces on the File menu and on the toolbar.

You can open or create a workspace two ways

The last five workspaces you have had open appear here
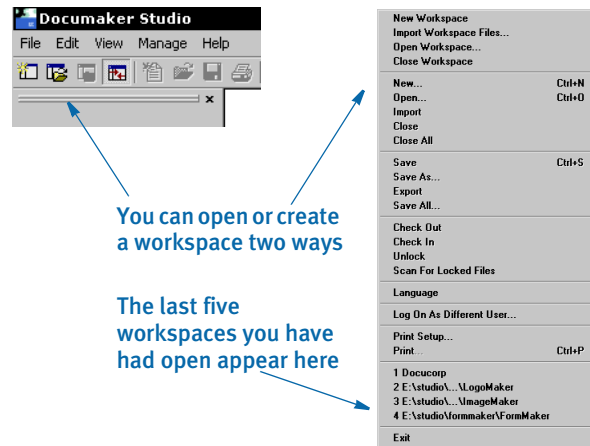
Once open, Studio shows the tools you can use to work in that workspace:

Here are the tools you can use. Click on a tool to open it.

The Status bar shows messages from the system.
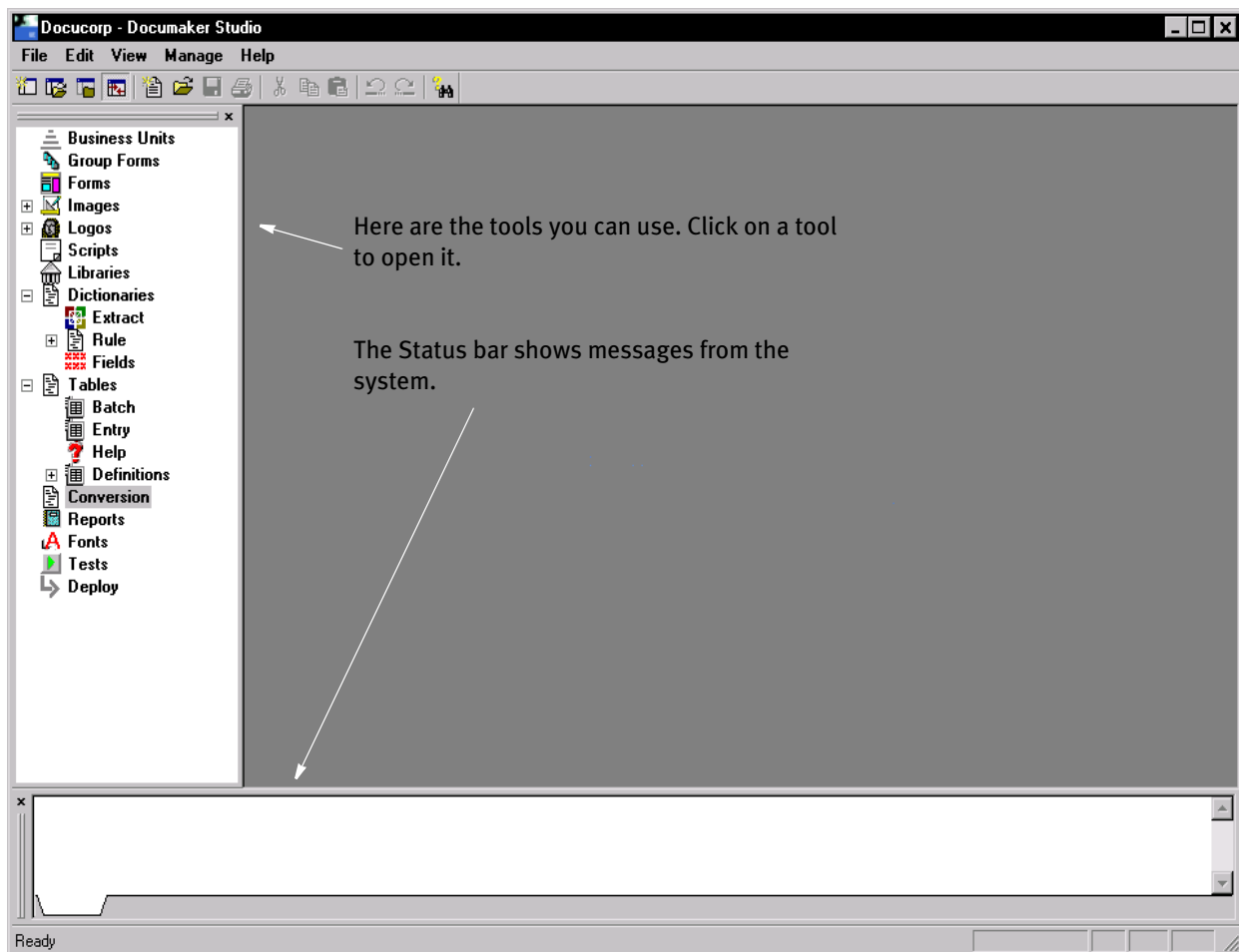
You can use these tools:

Tool	Choose this tool to...
Business Units	Define the various business units.
Group Forms	Define the characteristics of a specific group of forms. For instance all of the forms which comprise a specific type of loan or insurance policy would be listed.
Forms	Define the selection and arrangement of images that comprise the form set.
Images	Create and manage the images you use to make up forms.
Logos	Work with the bitmap graphics you use in your images. This gives you an easy way to resize, reverse, rotate, and manipulate the logo to fit your needs.
Scripts	Create scripts to automate certain tasks. You create these scripts using the Document Automation Language (DAL).
Libraries	Manage the libraries that contain the forms, images, logos, and other resources which comprise the form set.
Dictionaries	
Extract	Manage information about the extract files you use to merge information into variable fields on a form.
Rule	
Fields	Store common variable field information to make setting up and creating FAP files faster and more consistent.
Tables	Create lookup tables for the variable fields you create.
Batch	
Entry	
Definitions	
Fonts	Organize your fonts into sets of fonts you use for image creation and printing.
Tests	Test your forms in a simulated production environment.

Having the tools displayed in a *tree* arrangement provides an easy way to see the files you checked out from the library. It also serves as a most recently opened file list for all files, including those not in the library.

You can remove a file from this list by highlighting the file then right clicking to display the context menu. Use the...

• Check In option to check the file into the library

• Drop option to remove it from the list.
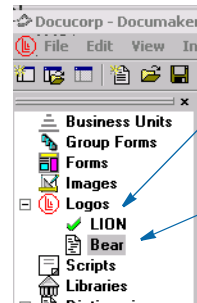
The green check mark shows this file is checked out of the library.

This file was opened from disk and has not been checked into the library.

If you right click in this area, the following menu appears:
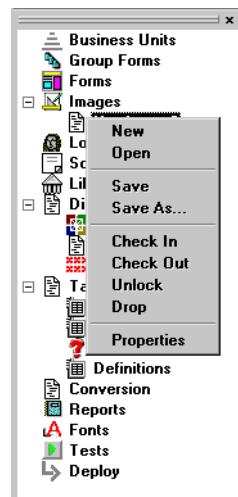
Option	Description
New	Use to create a business unit, group form, form, image, script, dictionary or table entry, or font.
Open	Use to open a business unit, group form, form, image, logo, script, library dictionary or table entry, conversion, report, font, or test.
Save	Use to save your work.
Save As...	Used to save your work with another name.
Check In	Use to save the changes and check in the item you are working on.
Check Out	Use to check out an item from the library.
Unlock	Use to unlock an item that is open when you want to release it back to the library without saving changes.
Drop	Use to temporarily remove an item that appears in the list that is a library item. Permanently remove from the list an image that is not a library item. Unlock or check in permanently removes a library member from the working list.
Properties	Use to display properties of the item.

USING SYSTEM MENUS

This topic discusses the pull down menus available when you are working in Documaker Studio. The following topics discuss the options on these menus. When you first start Studio, you see these menus:

Select	To
File	Create, open, close, save, check in, check out, unlock, and print files. You can also use this menu to exit the system.
Edit	Perform normal editing functions such as undo, redo, cut, copy, paste, and delete.
View	Set to turn on or off the display of the toolbar, workspace, output bar and status bar.
Manage	Work with various aspects of the project, including settings, libraries, dictionaries, scripts, fields, form sets, and other resources such as fonts, logos, help, tables, and users. You can also use this menu to convert files, print reports, test forms, and work with user profiles.
Window	Use to control the display of your windows. You can elect to have the windows display in tile, stack, or cascade format. You can also open a new window or arrange icons.
Help	Display Help contents, how to topics, shortcuts, the glossary, and product information.

These menus can change, depending on which tool you are working with. For instance, if you are working with images, you have these additional menus to choose from:

Select	To
Insert	Insert the various objects that comprise an image, such as boxes, text labels, text areas, charts, lines, logos, fields, shade, and so on.
Format	Align or space objects, convert objects into text labels or areas, or specify the formatting for paragraphs, including setting tabs, defining columns, numbering, specifying shading and borders, and so on.
Tools	Run a spell or grammar checker, run a data entry check or an image report, or compile or convert the image.

In addition, some of the options on the standard menus change. For instance, if you are working with images you will find additional Edit menu options which let you bold or italicize text. The chapters that discuss working with images or form, for example, document the addition menus and options that become available.

Using the Control menu   In addition in the top, left corner of most windows you can click on the Control menu icon:

Click here to display the
Control menu
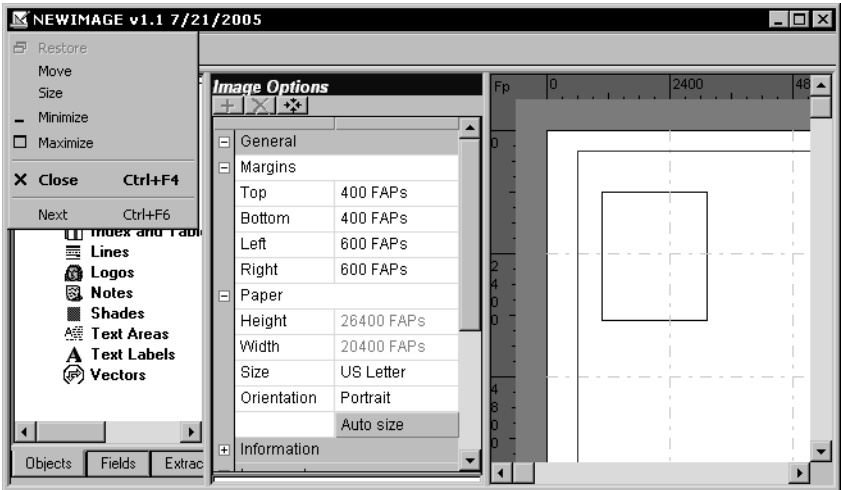
This menu provides these options:

Option	Description
Restore	Restores the window to a smaller view
Move	In the smaller view, the Forms icon appears in the upper left hand corner by the form name. The Move option lets you move the Forms window around.
Size	Lets you resize the window.
Minimize	Minimizes the window.
Maximize	Maximizes the window.
Close	Closes the window.
Next	Moves to the next open item, such as the next form or image.

FILE MENU

The File menu controls creating, opening, closing, saving, checking in or out, and printing your files. You also exit the system and return to your operating system from the File menu. When you select File, this menu appears:

```
New Workspace
Import Workspace Files...
Open Workspace...
Close Workspace

New...                          Ctrl+N
Open...                         Ctrl+O
Import
Close
Close All

Save                            Ctrl+S
Save As...
Export
Save All...

Check Out
Check In
Unlock
Scan For Locked Files

Language                             ▶

Log On As Different User...

Print Setup...
Print...                        Ctrl+P

1 Docucorp
2 E:\studio\...\LogoMaker
3 E:\studio\...\ImageMaker
4 E:\studio\formmaker\FormMaker

Exit
```

A brief summary of each option appears below.

Select	To
New Workspace	Create a new workspace (DXM file).
Import Workspace Files	Import a workspace file.
Open Workspace	Open a workspace.
Close Workspace	Close the current workspace. The system prompts you to save your work.
New	Create a new object, such as an image.
Open	Open as object, such as an image.
Import	Import an object.
Close	Close the open object window. The system prompts you to save the object if changes have been made.
Close All	Close all object windows. The system prompts you to save each object if changes have been made.
Save	Save the object you are working with.

Select	To
Save As	Save the object under a new name. This option lets you make a copy, without changing the original.
Export	Export an object
Save All	Save all open windows.
Check Out	Retrieve an object from a library and lock it, so no other user can check it out while you work with it.
Check In	Return an object to a library and unlock it. Other users can then check out the object.
Unlock	Remove the lock placed on a document when you retrieved it with Check Out, but did not use the Check In option to return it to the library.
Scan for Locked Files	Check the library index and update the workspace tree to reflect those documents you have checked-out from the library.
Language	Select the language appropriate for the forms you are working on.
Log On as a Different User	Log onto the system under another user ID.
Print Setup	Select the printer you will print to and set up printer-specific options.
Print	Print the current image or page.
(recently opened files)	Choose from a list of the last five files you had open. This lets you quickly reopen a workspace, for instance.
Exit	Close and exit Studio.

EDIT MENU

The Edit menu lets you make changes to objects. You can undo, copy, cut, delete, and paste individual objects or select all the objects for editing. When you select Edit, this menu appears:

Undo	Ctrl+Z
Redo	Ctrl+Y
Cut	Ctrl+X
Copy	Ctrl+C
Paste	Ctrl+V
Delete	Ctrl+D

The options on the Edit menu can vary, depending on which tool you are using. This example shows you the standard Edit menu options. Here is a brief summary of these options:

Select...	To...
Undo	Cancel or reverse your last action or choice.
Redo	Repeat the most recent change.
Cut	Remove a selection and place it on the clipboard. Use Paste to insert the selection into, for instance, another part of the image or into a different image.
Copy	Make a copy of the selection and place it in the clipboard. Use Paste to insert the selection into, for instance, another part of the image or into a different image.
Paste	Insert the contents of the clipboard at the cursor location.
Delete	Erase the selection. The selection is not stored on the clipboard so you must immediately select Undo if you change your mind.

VIEW MENU

The View menu controls lets you quickly turn on or off the display of the toolbar, workspace, output, or the status bar. When you select View, this menu appears:

A brief summary of each option appears below:

Select...	To...
Toolbar	View the toolbar.
Workspace	View the workspace.
Output	View output.
Status Bar	View the status bar.
Options	Specify grid and ruler settings.

NOTE: Depending on the tool you are using, other view windows may appear on the menu. The ones shown here are for the main view windows and are always available.

MANAGE MENU

The Manage menu lets you work with the various items which make up a project, such as libraries and scripts. When you select Manage, this menu appears:

Settings
Business Units
Group Forms
Forms
Images
Logos
Scripts
Libraries
Dictionaries   ▶
Tables   ▶
Conversion
Reports
Fonts
Tests
Users
Deploy

A brief summary of each option appears below.

Select...	To...
Settings	Define the INI and other configuration settings used by the system.
Business Units	Define the various business units.
Group Forms	Define the characteristics of a specific group of forms. For instance all of the forms which comprise a specific type of loan or insurance policy would be listed.
Forms	Define the selection and arrangement of images that comprise the form set.
Images	Create and manage the images you use to make up forms.
Logos	Work with the bitmap graphics you use in your images. This gives you an easy way to resize, reverse, rotate, and manipulate the logo to fit your needs.
Scripts	Create scripts to automate certain tasks. You create these scripts using the Document Automation Language (DAL).
Libraries	Manage the libraries that contain the forms, images, logos, and other resources which comprise the form set.
Dictionaries	Create and maintain mapping information for runtime data files.
Extract	Create and maintain the XDB.DBF file.

Select...	To...
Rule	Create and maintain the MASTER.DDT file.
Fields	Create and maintain the FDB.DBF file.
Tables	
Batch	Create and maintain tables (TBL files) used in a batch processing.
Entry	Create and maintain tables used in an entry processing.
Definitions	Define tables used by both the batch and entry processing.
Conversion	Convert files from one type to another, such as RTF to FAP and to change characteristics, such as a font ID) on multiple FAP files.
Reports	Print base definition, group, form, or image reports.
Fonts	Organize your fonts into sets of fonts you use for image creation and printing.
Tests	Test your forms in a simulated production environment.
Users	Create or work with user profiles.
Deploy	Put resources into production.

WINDOW MENU

Use the Window menu to control the way the system displays multiple windows. You can cascade or tile the windows. When you select Window, the following menu appears:
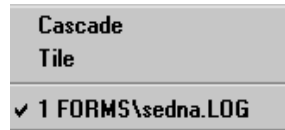
A brief summary of each option appears below.

Select...	To...
Cascade	Display multiple form or image windows in a layered fashion. The system stacks the forms one behind another so you easily see the name or title of each window or form.
Tile	Display multiple form or image windows on your screen.
(*file list*)	Jump to an open window. The system lists the windows you currently have open.

HELP MENU

The Help menu controls access to Help screens. When you select Help, this menu appears:

Contents	Ctrl+F1
How to...	Ctrl+Alt+F1
Shortcuts	
Glossary...	Ctrl+F11
Using Help	Shift+F11
About Documaker Studio...	

A brief summary of each option appears below.

Select...	To...
Contents	See a general table of contents to the Help system.
How To	Find step-by-step instructions for a variety of tasks.
Shortcuts	See a list of keyboard shortcuts.
Glossary	Review definitions of terms used in the system.
Using Help	Find an explanation of how to use help.
About Documaker Studio	Review product information such as the version and patch number. You may need to refer to this information if you contact Customer Support.

CREATING
WORKSPACES

Follow these steps to create a workspace for multiple users:

1 Choose the File, New Workspace option.

New Workspace	
Import Workspace Files...	
Open Workspace...	
Close Workspace	
New...	Ctrl+N
Open...	Ctrl+O
Import	
Close	
Close All	
Save	Ctrl+S
Save As...	
Export	
Save All...	
Check Out	
Check In	
Unlock	
Scan For Locked Files	
Language	▶
Log On As Different User...	
Print Setup...	
Print...	Ctrl+P
1 E:\SHIPW32\...\Docucorp	
2 E:\studio\shipw32\Docucorp	
3 E:\studio\...\LogoMaker	
4 E:\studio\...\ImageMaker	
Exit	

Select the New Workspace option.

This turns on the Workspace wizard. The first page of the wizard asks whether you are creating a new workspace or joining an existing workspace.

2 Choose the Create New Workspace option. Then enter the name and location where you want the workspace to be created. If the path you specify does not exist, the subdirectories you specify will be created (if possible). For others to join the workspace, it will have to be located on a network or in a shared directory that allows access by the other users.

NOTE: The name you enter for the workspace cannot begin with a space or any of these characters: \ / : * ? " < > |

3 Click the Allow Other Users to Join field. Then click Next.

Click here
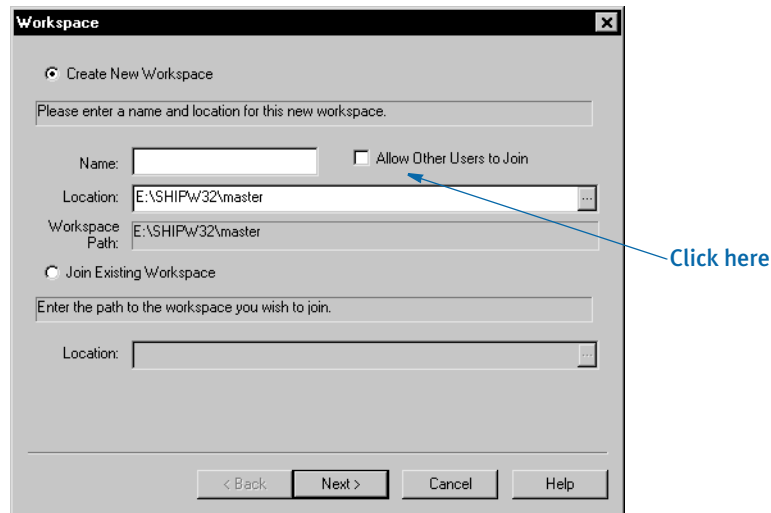
4   On the MRL Setup page, you first identify whether you are creating a new
     workspace or intend to import files from an existing MRL (Master Resource
     Library). Remember if you choose to create a new workspace, you can still
     manually import existing resource files later.
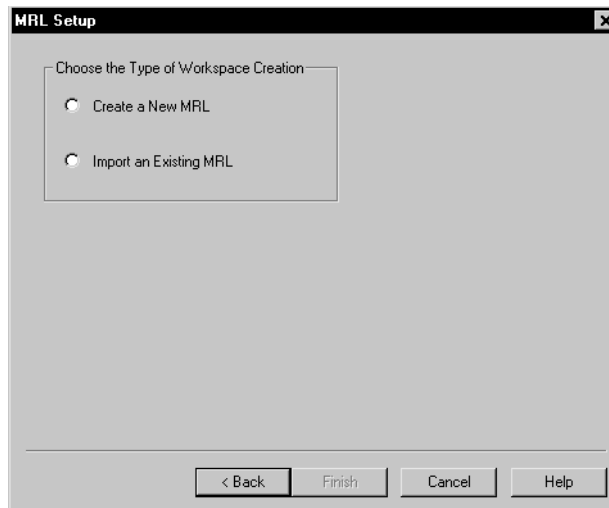
If you choose to import existing resources, you can browse to a working directory
and an INI file (usually named FSIUSER.INI) that identifies the components of the
resources you wish to import.
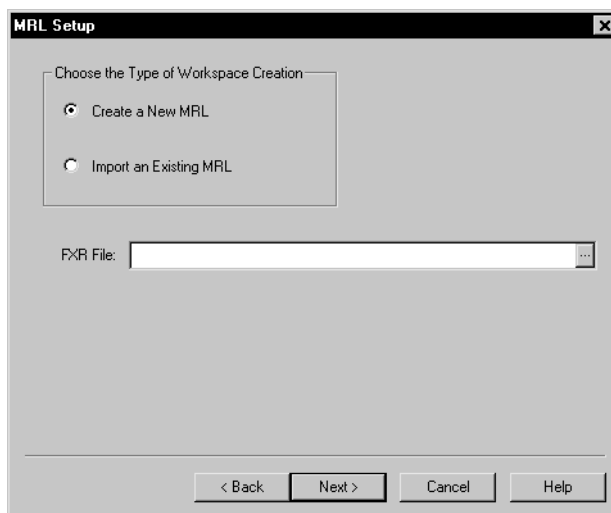
NOTE: Remember, in some setups, the working directory and the location of the INI
        file for a resource library setup are different. If the INI file uses relative paths,
        the working directory must be set correctly, or the components of the library
        may not be found.

Relative paths are those that have dots to represent the current or prior directory
locations, as shown here:

..\DEFLIB\
.\DEFLIB\

Two dots means to back up a directory from the current working directory. One dot means that the next value is relative to the working directory. It is important to set the working directory correctly if you use these types of relative path settings in the INI file.
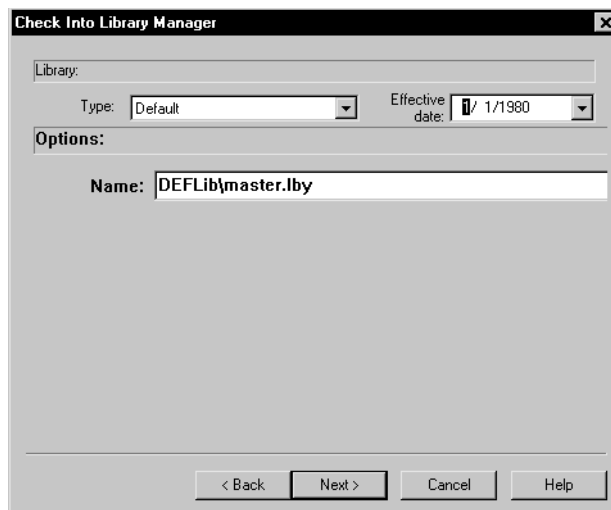
If you choose to import from a resource library, the wizard asks addition questions. If you select the Create a New MRL option, the following field appears:

5 Use the FXR File field to enter the font cross-reference (FXR) file you want to use with this new workspace setup.

If you have installed the product according the default procedures, the system scans for and displays a font cross-reference (FXR) file. If the file shown is not the one you want, use the Browse button to locate that FXR. Once located, click Next.

The following page appears:

6   Here you define the library management method you will use. The default method uses a separate index and compressed library file. This is the method used by many legacy environments. You can also use...

- An ODBC table as the index and location to store the compressed resource data

- A DB/2 SQL table as the index and location to store the compressed resource data

- Documanage, Docucorp's powerful document management repository.

NOTE: Depending upon your library management choice, additional questions may be asked.

7   Use the Effective Date field to specify the default date for resources that may be imported or created for this new workspace. Remember that transactions are assumed to have a date-of-record — sometimes referred to as the *run date*, *effective date*, or *policy date*. Library management uses this transaction date to locate the proper resource version/revision that was effective on that date.

Click here to display the calendar.

Use the arrows to scroll through the months.

Then click on the date you want.
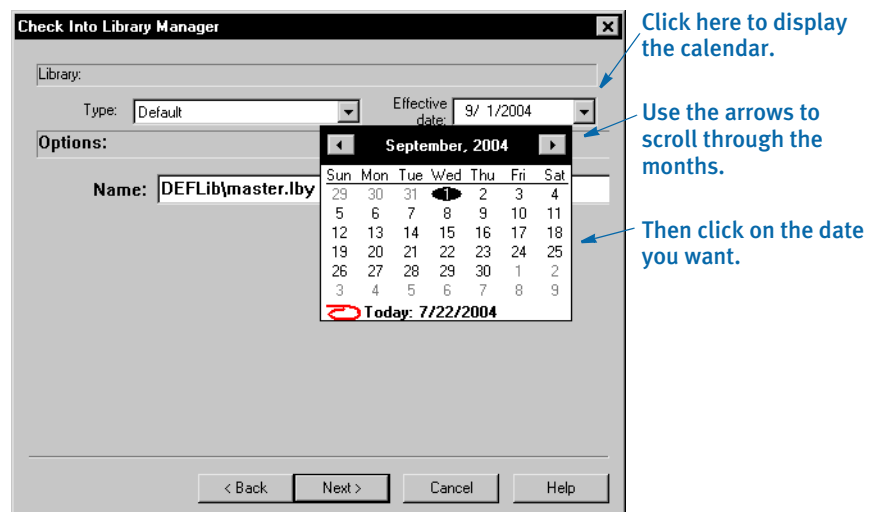
NOTE: When creating a new workspace, it is important to set the date on this page back far enough to cover the transaction date range that you expect to process.

Click Next when finished. The following page appears:
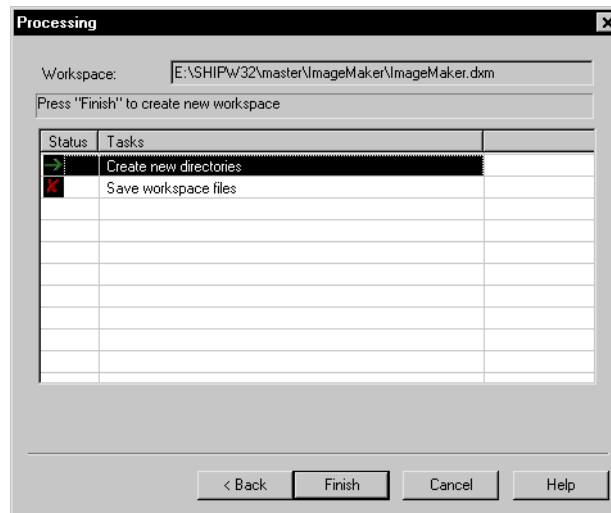
- Creating the new directory structure for the workspace

- Saving the workspace file

NOTE: If you had chosen to import resources from an existing setup, this page would list additional tasks to accomplish the creation of the new workspace.

8 Click Next. The tasks listed on the window are checked off as they occur. You may notice some additional messages appear in the Output window.

This page appears after the creation tasks finish to ask if you would like to specify an alternate location to keep your local files.
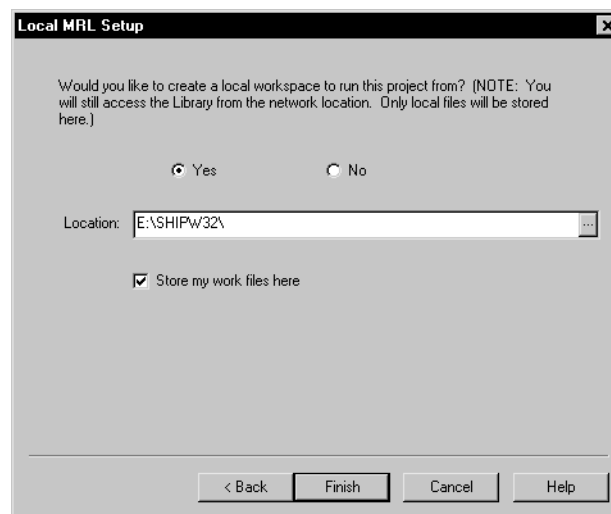
If you select	The system
Yes	Prompts you to enter or browse to the location where your local workspace files should be stored.
No	Creates a subdirectory using your user ID in the network path where the shared workspace was created. This will be the location where files you check out are stored.

Make your choice and then click Finish.

Once created, you are designated as the administrator of the user database (USERINFO). As administrator, you can set security rights for other users who join the workspace. You do not, however, have to predefine additional users. New users who join a workspace are automatically inserted into the user database and inherit the attributes of USER1. Therefore, as administrator, you should change USER1 to have the level and security rights you want new users to have.

JOINING A WORKSPACE

To join a workspace created for multi-user development, follow these steps:

1 Choose the File, New Workspace option.
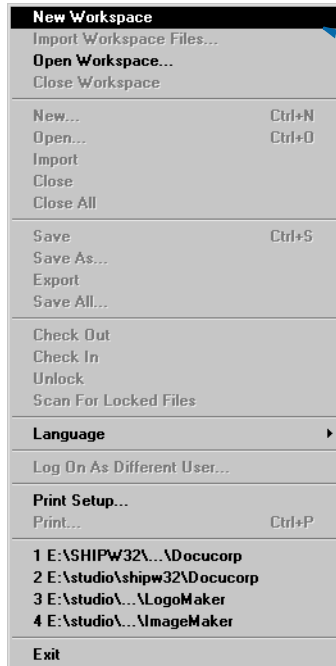
Select the New Workspace option.

This turns on the workspace creation wizard which leads you through the steps necessary to join an existing workspace.

2 The first page of the wizard asks whether you want to create a new workspace or to join an existing workspace. Think of joining an existing workspace as you do creating a shortcut on your Windows desktop. You are creating a local reference to a shared workspace.

Select the Join Existing Workspace option.

Click here
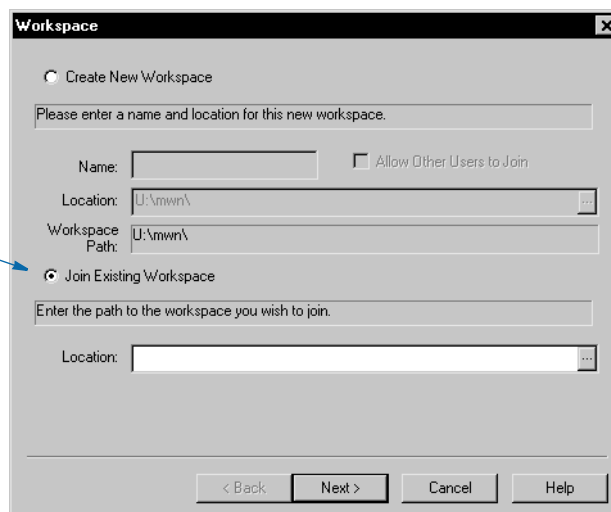
3   Next, specify the location of the shared workspace you want to join in the Location field. You can use the browse button to pick the location, or simply enter the path and file name.

NOTE: When selecting the workspace to join, specify the DXM file and not the DXS file.

Click Next. This page appears:
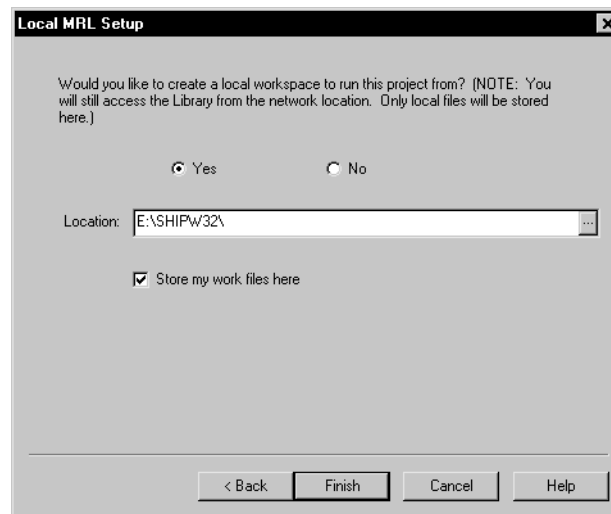
4   On this page, you specify whether you want a local scratch pad (where your checked-out resources are maintained) or whether you want to have the scratch pad stored in the shared location.

Choose	If you want to
Yes	Specify an alternate location, such as a local drive path, where your reference files should be stored.
No	Create a user subdirectory in the shared location that will maintain your reference files.

Click Finish. The system creates your local directory, if necessary, and opens the workspace.

A new user in a workspace, may not have sufficient security rights to do certain tasks. It is up to the administrators to assign security rights to users, including what rights new users inherit.

If you accidentally choose to create a new workspace on the first wizard window and then enter a location that already has a workspace in it, you will see a message similar to this one.

You can open the workspace if you are already a member, or you can join the workspace and be prompted for the location to store your files. You can also choose to re-create the workspace. This last option only applies if you are the administrator of the workspace. If you are not the administrator, the system makes you start over.

Working with Settings and Users

Use the Settings option on the Manage menu to work with INI options and tool settings. INI options let you specify default values and other user-defined parameters.

Tool settings let you define how your forms appear on your screen. For instance, you can choose the display units and colors for the rulers that border forms, images and logos. You can also define the grid settings and specify colors for different elements in DAL scripts.

This chapter discusses...

WORKING WITH INI OPTIONS

INI options tell the system how you want it to operate. These options are stored in INI files. An INI file is simply a text file consisting of control groups and options. A control group organizes the various options and is denoted by brackets (< >) or braces ([ ]). The individual INI options appear below each control group. The settings for each option appear after an equals sign (=). Here is an example:

```
< ControlGroup >
    Option1 = Parameters
    Option2 = Parameters
    ...
    OptionN = Parameters
```

Instead of editing the text file, Studio lets you modify your INI settings without leaving the system. Your changes are applied as soon as you click Ok.

How INI files are used

Each resource library uses two INI files: FSIUSER.INI and FSISYS.INI.

- FSIUSER.INI - controls settings which can vary between resource libraries, such as sorting options, archival mode, and import/export ability, as well as individual user options.

  To work with these options in Studio, you click the Local tab.

- FSISYS.INI - controls information related to the entire system, such as system settings and program function calls.

  To work with these options in Studio, you click the System tab.

The system loads the FSIUSER first, then finds the name and location of the FSISYS file from the ENVIRONMENT group, and loads it. Since the FSIUSER is loaded first, the options within this group usually override the FSISYS options.

In a multi-user environment, you may not want to let all users change system-level settings. In some cases, you may not want some users to change individual settings. The system lets you determine which configuration options are available to a specific user. This is done via security definitions which are assigned to these options by the system administrator. For instance, you may allow a user to change local settings (FSIUSER), but not change the system settings (FSISYS). Or, you may let a user review these settings (local and system, but not change them.

SETTING INI OPTIONS

When you choose the Manage, Settings option, the Settings window appears:
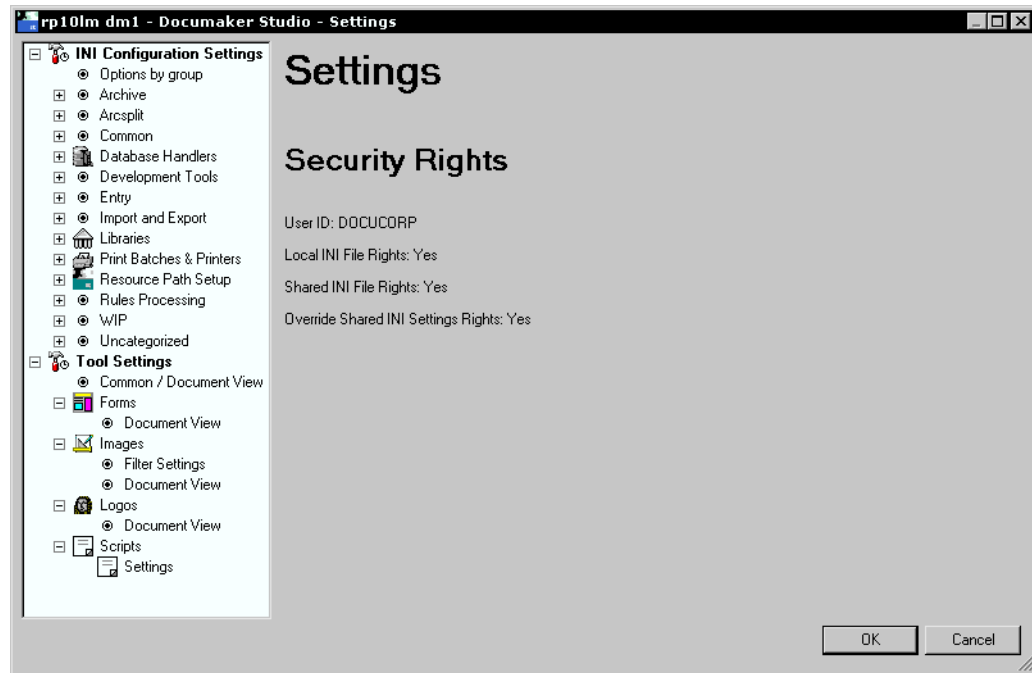
The initial view lists the groups of settings to the right and shows the security settings for the current user ID.

NOTE: You can use the File, Log On As Different User option to change to another user ID.

You can find individual INI options a number of ways:

• By locating the control group. This way is useful if you already know the name of the control group.

• By clicking on the appropriate category

Click the plus sign (+) to
expand the category.
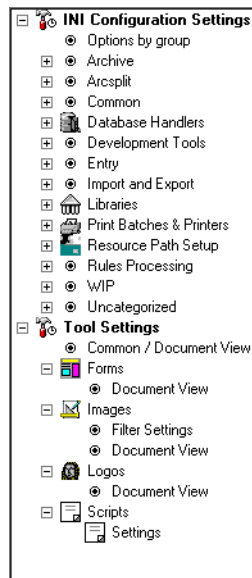
For instance, if you expand Import and Export, you see the following options:

The control
groups are shown
on a gray
background.

Click the +/-
symbol to show or
hide the options
in the control
group.

The name of the
option appears in
the left column.
Your entry goes in
the right column.
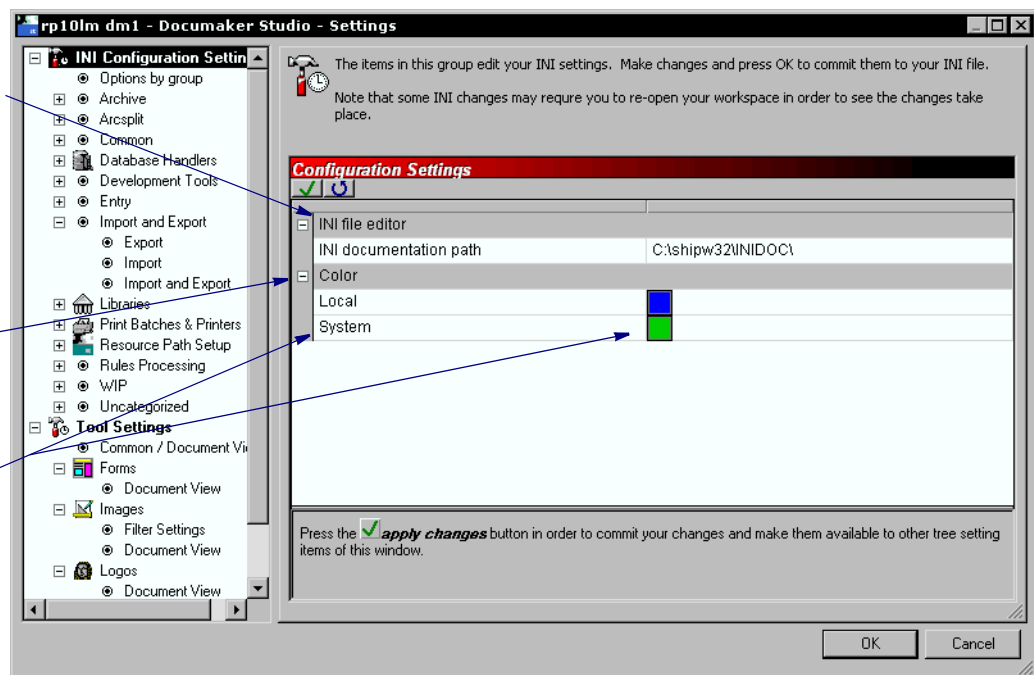
To make an entry for an INI option, click in the entry area beside the option. For some
options, you simply enter text. For others, an icon appears to let you browse for a file,
choose from a list of pre-set options, or to specify a parameter comprised of several
elements.

Here are some examples:

Browsing for a file

Click here to display the Browse for File window.
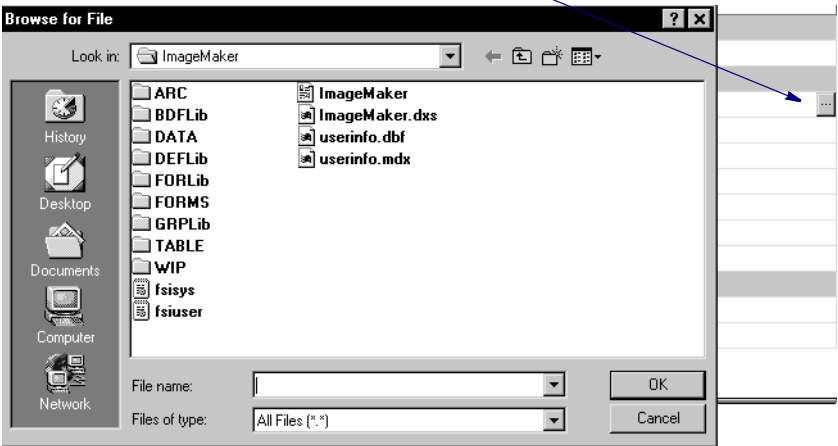
Choosing from a list of options
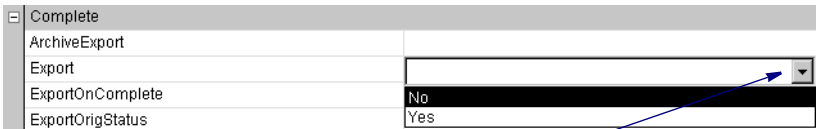
Click here to display the list of pre-set options.

Specifying a parameter comprised of several elements

Click here to display the Option List window.
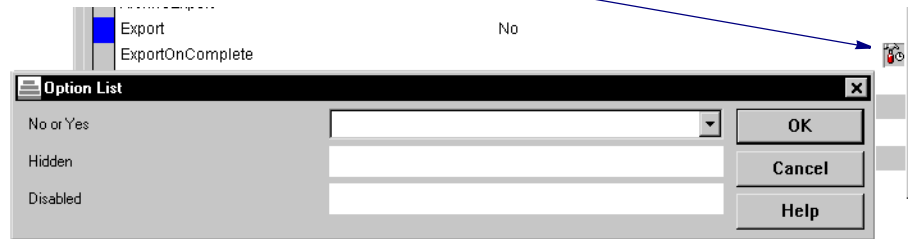
NOTE: You can find information about individual INI options on the DOSS site.

Studio groups the INI options into these categories:

To	See
Set archive/retrieval options	Defining Archive Options on page 39
Specify how to split an archive (CAR) file	Defining ArcSplit Options on page 40

To	See
Work with common system settings	Defining Common Options on page 41
Set up database options	Defining Database Handlers on page 42
Set development tool options	Setting Development Tool Options on page 43
Configure data entry	Defining Entry Options on page 44
Specify import and export settings	Defining Import and Export Options on page 45
Configure your libraries	Setting Up Resource Libraries on page 46
Set up printers and batches	Defining Print Batches and Printers on page 48
Specify where resources are stored	Defining Resource Paths on page 50
Set rules processing options	Defining Rules Processing Options on page 51
Set work-in-progress options	Defining WIP Options on page 52
Work with options not covered above	Defining Uncategorized Options on page 53

DEFINING ARCHIVE OPTIONS

Here you can define options common to...

- Archive-related utilities

- All archives

- The GenArc program

- Archiving via Documaker Workstation

- Archive/Retrieval vial Documaker Workstation

When you right-click on any field on this screen, you can choose from these options:

Option	Description
Print	Print a copy of the settings.
New	Tells Studio to add a new INI option. Studio asks for the name of the control group, the name of the option, and the value you want to assign to the option.
Remove	Tells Studio to remove this INI option.

DEFINING ARCSPLIT OPTIONS

Use these options to define what should happen when you split an archive (CAR) file. You can perform this task from within Documaker Workstation or using the ARCSPLIT utility. The INI options are grouped based on those two approaches.

When you right-click on any field on this screen, you can choose from these options:

Option	Description
Print	Print a copy of the settings.
New	Tells Studio to add a new INI option. Studio asks for the name of the control group, the name of the option, and the value you want to assign to the option.
Remove	Tells Studio to remove this INI option.

DEFINING COMMON OPTIONS

This is where you define settings common to all facets of Studio. This includes interface options, miscellaneous options, and print options.

When you right-click on any field on this screen, you can choose from these options:

Option	Description
Print	Print a copy of the settings.
New	Tells Studio to add a new INI option. Studio asks for the name of the control group, the name of the option, and the value you want to assign to the option.
Remove	Tells Studio to remove this INI option.

DEFINING DATABASE HANDLERS

Some of the information you work with, such as archive information, must be stored in database tables. The system lets you use several types of databases, such as ODBC, DB2 and Oracle. To define the type of database tables you will use, click Database Handlers. The following window appears:
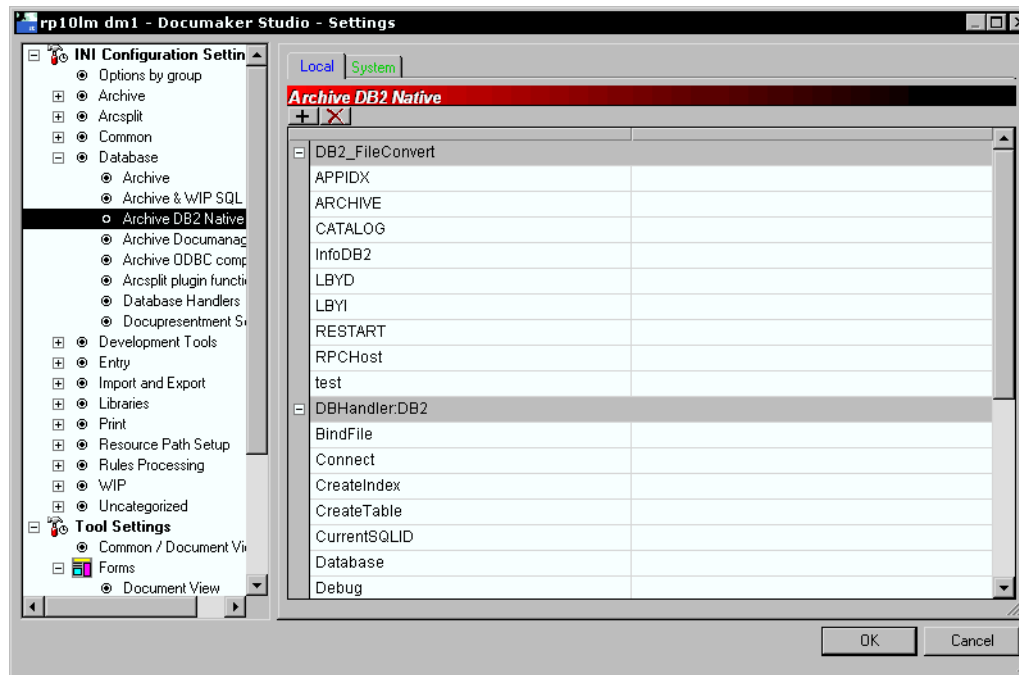
From this window you can add and delete database handlers. You can also customize the properties of these handlers. When adding a database handler, the system provides a wizard to guide you through the setup process.

When you right-click on any field on this screen, you can choose from these options:

Option	Description
Print	Print a copy of the settings.
New	Tells Studio to add a new INI option. Studio asks for the name of the control group, the name of the option, and the value you want to assign to the option.
Remove	Tells Studio to remove this INI option.

SETTING DEVELOPMENT TOOL OPTIONS

These options let you control how you work with Studio. The following window appears:
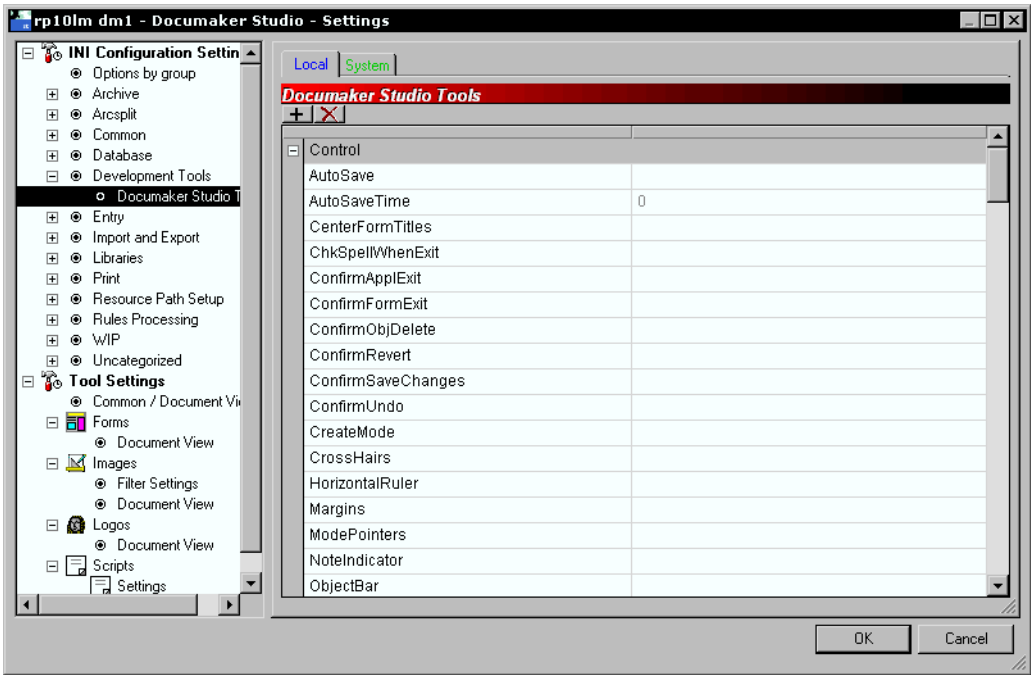
From this window you can set how often Studio should automatically save your work or if it should automatically run a spell check when you close an applicable object. You can also set the default colors for the objects you place on images, such as boxes and barcodes.

NOTE: This is where you set the Locale option. The Locale options determines the default units of measure, date format, and so on.

When you right-click on any field on this screen, you can choose from these options:

Option	Description
Print	Print a copy of the settings.
New	Tells Studio to add a new INI option. Studio asks for the name of the control group, the name of the option, and the value you want to assign to the option.
Remove	Tells Studio to remove this INI option.

DEFINING ENTRY OPTIONS

This is where you define how the data entry facilities work.

When you right-click on any field on this screen, you can choose from these options:

Option	Description
Print	Print a copy of the settings.
New	Tells Studio to add a new INI option. Studio asks for the name of the control group, the name of the option, and the value you want to assign to the option.
Remove	Tells Studio to remove this INI option.

DEFINING IMPORT AND EXPORT OPTIONS

This is where you define importing and exporting options.

When you right-click on any field on this screen, you can choose from these options:

Option	Description
Print	Print a copy of the settings.
New	Tells Studio to add a new INI option. Studio asks for the name of the control group, the name of the option, and the value you want to assign to the option.
Remove	Tells Studio to remove this INI option.

SETTING UP RESOURCE LIBRARIES

Libraries store the resources you use as you build and process information on form sets. When you click Libraries, this window appears:
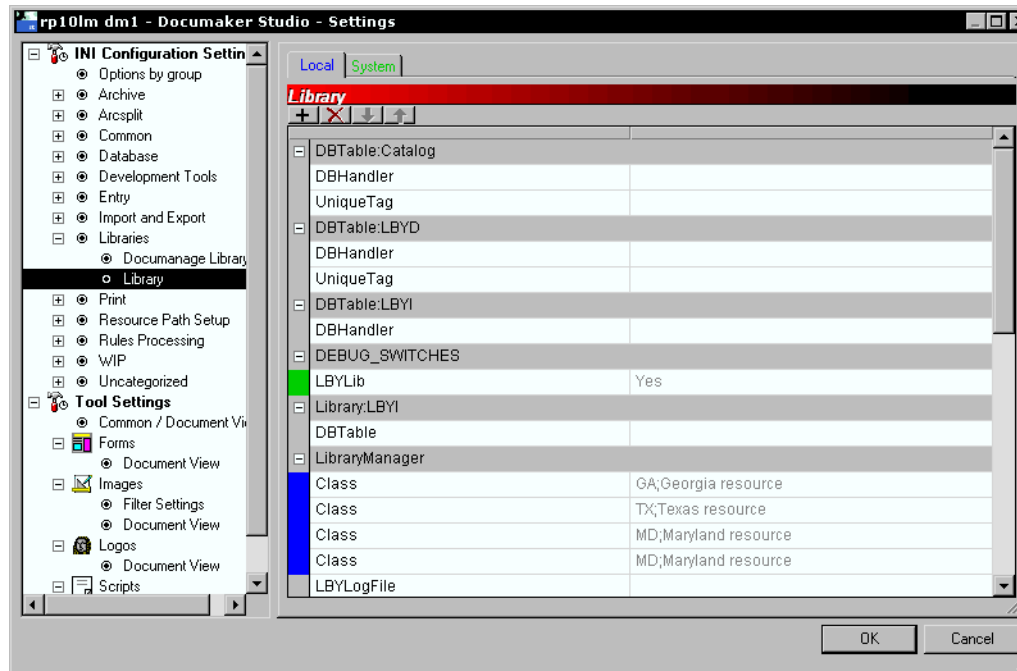
Here you can choose the library you want to work with. Libraries contain the resources you use to build form sets. These resources include images, logos, and forms. Other tabs on this window let you work with...

Tab	Description
Modes	Indicates what stage of development a resource is in, such as development, testing, or production mode.
Status Codes	Indicate the status of a resource, such as whether it needs testing, must be modified, or should be promoted.
Classes	Let you categorize resources based on your needs. For instance, resources used in a single line of business or geographical area could comprise a class.
Projects	Let you associate a resource with a particular job or task.
Library Logs	Track what happens to a resource. For instance, here you can see what resources have been added, modified, or deleted.

NOTE: The descriptions for Modes, Status Codes, Classes, and Projects reflect a typical use of these tabs and the system defaults to settings that support that usage. You can, however, define these concepts differently if your needs differ.

When you right-click on any field on this screen, you can choose from these options:

Option	Description
Print	Print a copy of the settings.
New	Tells Studio to add a new INI option. Studio asks for the name of the control group, the name of the option, and the value you want to assign to the option.
Remove	Tells Studio to remove this INI option.

DEFINING PRINT BATCHES AND PRINTERS

Click the Print Batches & Printers options to set up the print batches and printer options you will use to publish your forms.
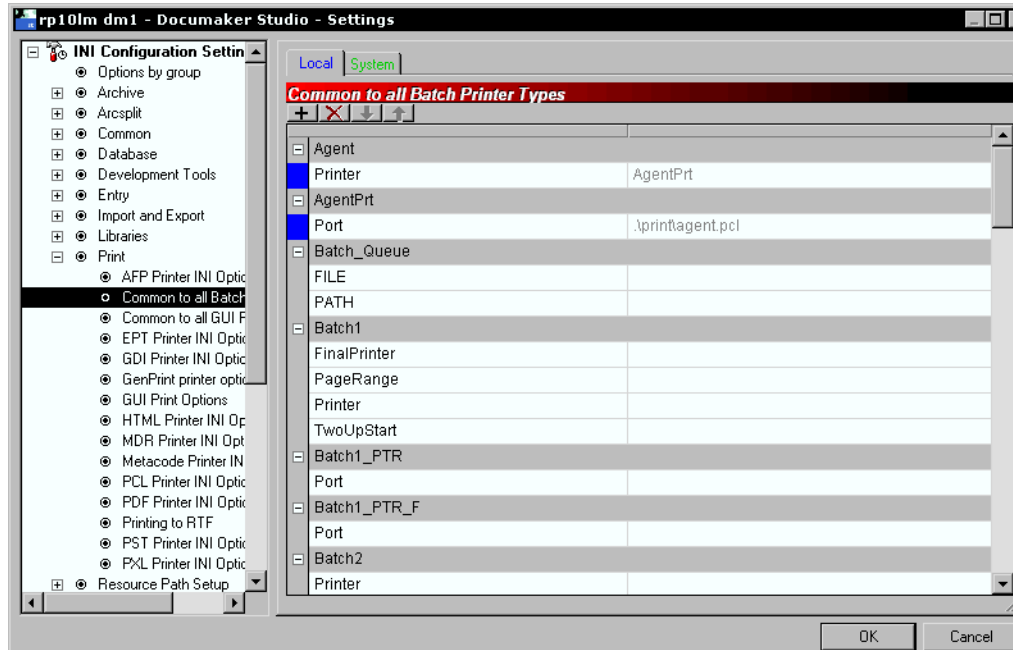
You have several categories of options:

Category	Description
Print Options	This is where you define the print type and if you will want to produce transaction or batch banner pages
Print Batches	Typically print batches are grouped by recipient, but you can set up print batches to meet your needs, such as by page count. Studio includes a wizard to guide through the process of creating a new print batch. To insert a print batch, right-click on Print Batches and choose Insert. To delete a print batch, right-click on the Print Batch item you want to delete and choose Delete.
BatchingByRecip Options	These options work with the BatchingByRecipINI and BatchingByPageCountINI rules. To insert an option, right-click on BatchingByRecip Options and choose Insert. To delete an option, right-click on the option you want to delete and choose Delete.
Logical Output Devices	Studio displays all logical output devices already defined. To insert an output device, right-click on Logical Output Devices and choose Insert. To delete an output device, right-click on the output device you want to delete and choose Delete.

| Category	Description
Print Types	Print types refer to the printer language uses, such as PostScript, AFP, Metacode, or PCL. Studio displays all logical output devices already defined. To insert a print type, right-click on Print Types and choose Insert. To delete a print type, right-click on the print type you want to delete and choose Delete.

When you right-click on any field on this screen, you can choose from these options:

Option	Description
Print	Print a copy of the settings.
New	Tells Studio to add a new INI option. Studio asks for the name of the control group, the name of the option, and the value you want to assign to the option.
Remove	Tells Studio to remove this INI option.

DEFINING RESOURCE PATHS

This is where you tell Studio where to find the resources you will work with and it will use to build form sets.

When you right-click on any field on this screen, you can choose from these options:

Option	Description
Print	Print a copy of the settings.
New	Tells Studio to add a new INI option. Studio asks for the name of the control group, the name of the option, and the value you want to assign to the option.
Remove	Tells Studio to remove this INI option.

DEFINING RULES PROCESSING OPTIONS

This is where you define options that affect how rules are processed via the GenData and GenTrn programs.

When you right-click on any field on this screen, you can choose from these options:

Option	Description
Print	Print a copy of the settings.
New	Tells Studio to add a new INI option. Studio asks for the name of the control group, the name of the option, and the value you want to assign to the option.
Remove	Tells Studio to remove this INI option.

DEFINING WIP OPTIONS

This is where you define options that affect work-in-progress. This includes options for the GenWIP program and options that affect how WIP is handled via a workstation.
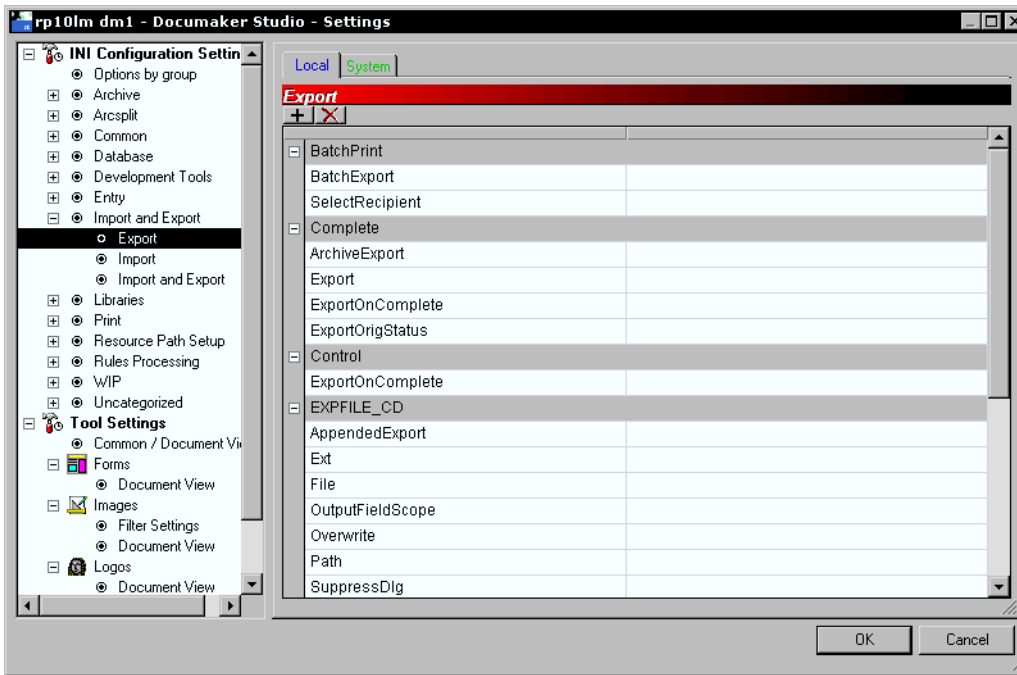

When you right-click on any field on this screen, you can choose from these options:

Option	Description
Print	Print a copy of the settings.
New	Tells Studio to add a new INI option. Studio asks for the name of the control group, the name of the option, and the value you want to assign to the option.
Remove	Tells Studio to remove this INI option.

DEFINING UNCATEGORIZED OPTIONS

This is where you define miscellaneous options.

When you right-click on any field on this screen, you can choose from these options:

Option	Description
Print	Print a copy of the settings.
New	Tells Studio to add a new INI option. Studio asks for the name of the control group, the name of the option, and the value you want to assign to the option.
Remove	Tells Studio to remove this INI option.

DEFINING TOOL SETTINGS

Defining tool settings is often one of the first tasks you will do. These settings affect how all documents appear on your screen. You can define tool settings by choosing Settings from the Manage menu. Then choose Tool Settings.

To work with common document viewing settings, click Common/Document View. This window appears:
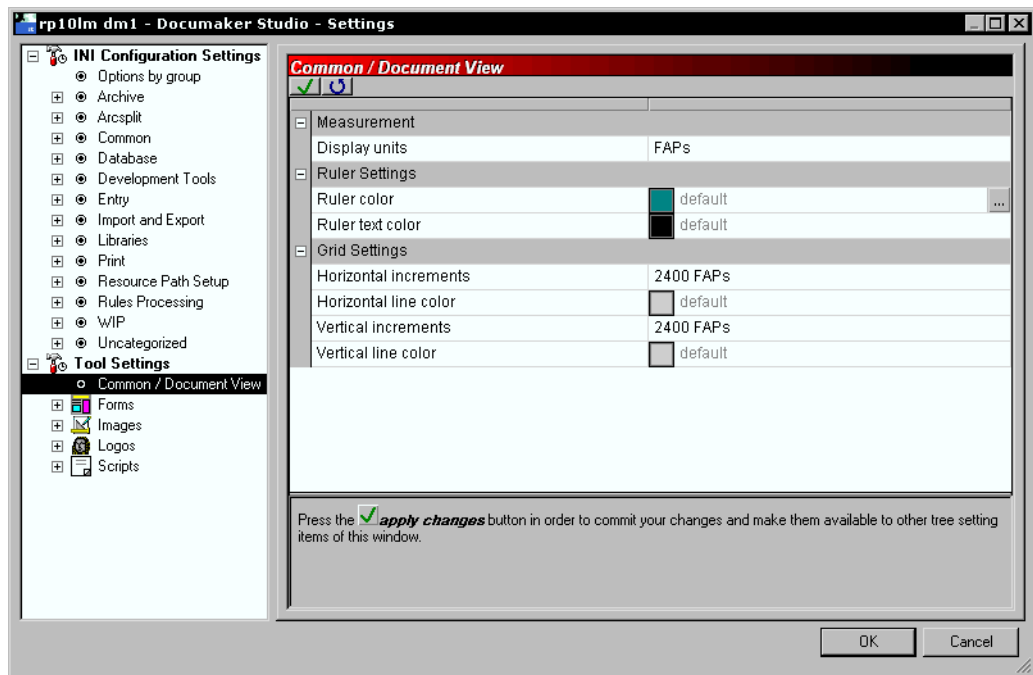
This table explains your options:

Option	Description
Measurement	
Display Units	Select unit of measurement in which display will be made - centimeters, FAP units (2400 per inch), inches, picas, points
Ruler Settings	
Ruler color	Click the icon in this field to display the Color Selection screen and select the color you want to use.
Ruler text color	Click the icon in this field to display the Color Selection screen and select the color you want to use.
Grid Settings	
Show Horizontal Grid	Check to display the horizontal grid.
Show Vertical Grid	Check to display the vertical grid

When you right-click on any field on this screen, you can choose from these options:

Option	Description
Print this Window	Prints the contents of the window.
Apply Changes	Lets you apply your changes.
Default Settings	Restores the default settings.

From Tool Settings you can also work with options that control the following:

To	See
Work with form options	Working with Form Options on page 56
Work with image options	Working with Image Options on page 57
Work with logo options	Working with Logo Options on page 60
Work with script options	Working with Script Options on page 61

WORKING WITH FORM OPTIONS

Choose this option to define how you view documents on your screens. This includes setting up the grid and rulers. This window appears:
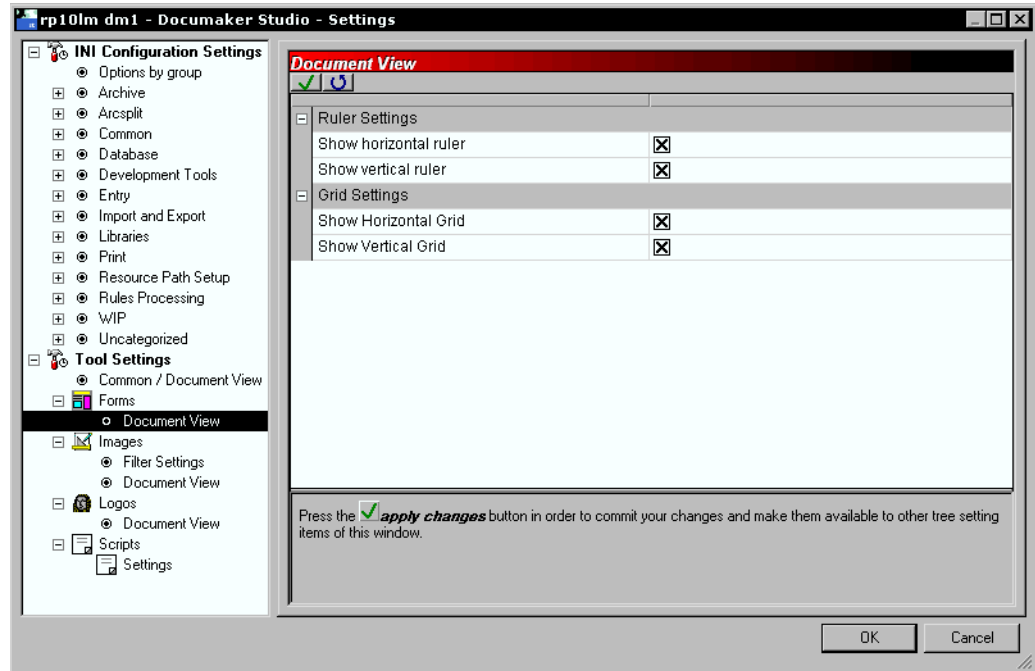
This table explains your options:

Option	Description
Ruler Settings	
Show horizontal ruler	Check to show the horizontal ruler.
Show vertical ruler	Check to show the vertical ruler.
Use a ruler in this tool	Check to use a ruler when working with forms.
Grid Settings	
Show Horizontal Grid	Check to display the horizontal grid.
Show Vertical Grid	Check to display the vertical grid

When you right-click on any field on this screen, you can choose from these options:

Option	Description
Print this Window	Prints the contents of the window.
Apply Changes	Lets you apply your changes.

Option	Description
Default Settings	Restores the default settings.

WORKING WITH IMAGE OPTIONS

The image options fall into two categories:

- Filter settings

- Document view options

The following topics discuss these options.

Setting Image Filter Options

Choose Filter Settings to define the filter settings that apply when you are working with images. This window appears:
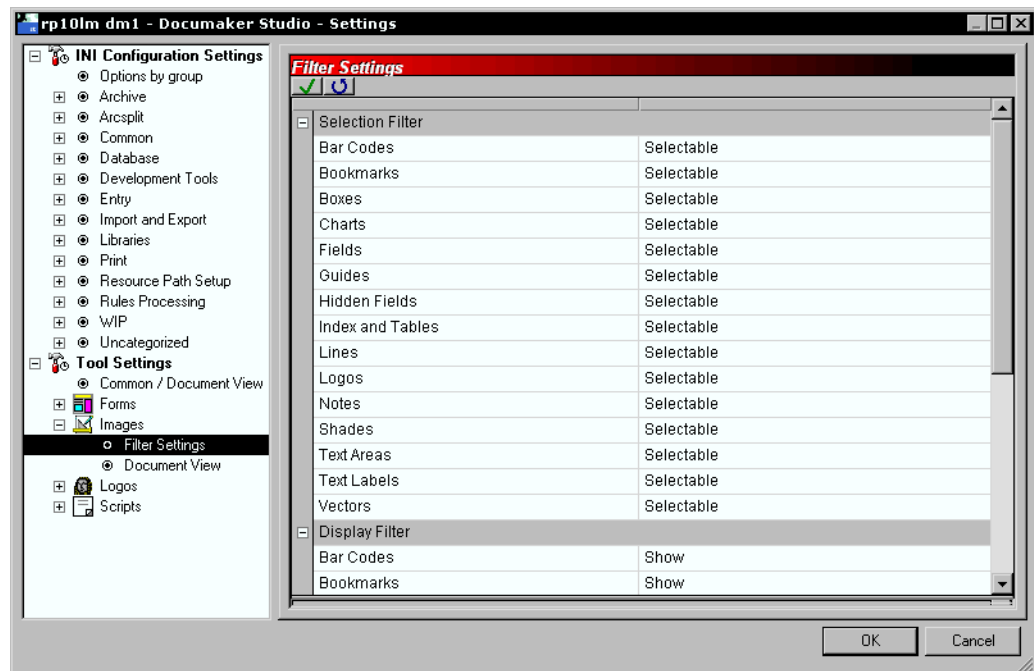
When you right click on any field on this screen, the following option is shown:

Option	Description
Print this Window	Print a copy of the settings.
Apply Changes	Tells Studio to record the changes you have made.
Default Settings	Tells Studio to restore the default settings.

The filter options are divided into these categories:

- Selection filters

- Display filters

Selection Filter For each type of object, you can choose from these filter settings:

Option	Description
Cannot move	Check this option if you do not want to allow anyone to move this kind of object.
Non-selectable	Check this option if you do not want to allow anyone to select this kind of object.
Selectable	Check this option to let people select this kind of object.

Display Filter For each type of object, you can choose from these filter settings:

Option	Description
Hide	Tells Studio to list the object in the object tree but hide it in the work area.
Show	Tells Studio to show the object as you create it.
Placeholder	Tells Studio to display a placeholder instead of the actual object.

Setting Document View Options

These options control how Studio displays documents. For instance, you use these options to turn on or off rulers, show or hide the grid, and turn on or off automatic spell and grammar checking.

When you click Document View, this window appears:

This table explains your options:

Option	Description
Ruler Settings	
Show horizontal ruler	Check to show the horizontal ruler.
Show vertical ruler	Check to show the vertical ruler.
Use a ruler in this tool	Check to use a ruler when working with images.
Grid Settings	
Show horizontal grid	Check to display the horizontal grid.
Snap to horizontal line	By checking, the object entered will snap (be placed) to the closest horizontal line below it.
Show vertical grid	Check to display the vertical grid.
Snap to vertical line	By checking, the object entered will snap (be placed) to the closest vertical line to the left of it.
Save	
Spell check on Save	Check this option to have Studio automatically check spelling when you save an image.
Grammar check on Save	Check this option to have Studio automatically check grammar when you save an image.

When you right-click on any field on this screen, you can choose from these options:

Option	Description
Print this Window	Print a copy of the settings.
Apply Changes	Tells Studio to record the changes you have made.
Default Settings	Tells Studio to restore the default settings.

WORKING WITH LOGO OPTIONS

These options control how Studio displays logos (bitmap graphics). For instance, you use these options to select the unit of measurement, turn on or off rulers, set ruler colors, and so on. When you click Document View, this window appears:
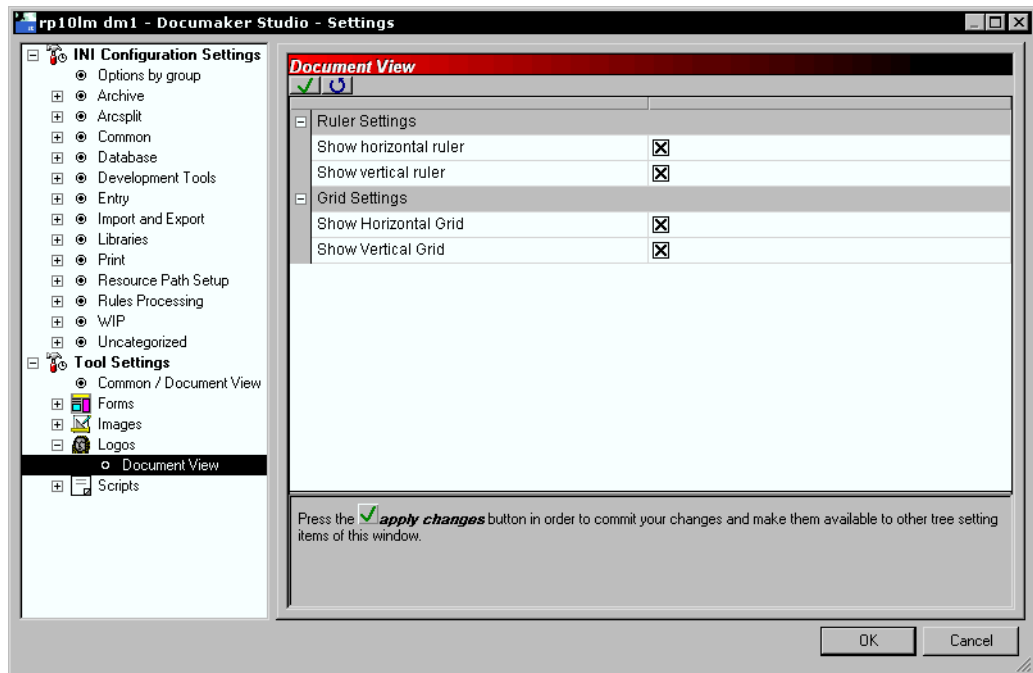
This table explains your options:

Option	Description
Ruler Settings	
Show horizontal ruler	Check to show the horizontal ruler.
Show vertical ruler	Check to show the vertical ruler.
Use a ruler in this tool	Check to use a ruler when working with logos.
Grid Settings	

Option	Description
Show Horizontal Grid	Check to display the horizontal grid.
Show Vertical Grid	Check to display the vertical grid.

When you right-click on any field on this screen, you can choose from these options:

Option	Description
Print this Window	Print a copy of the settings.
Apply Changes	Tells Studio to record the changes you have made.
Default Settings	Tells Studio to restore the default settings.

WORKING WITH SCRIPT OPTIONS

Use these options to set up the color for the various elements of a DAL script. For instance, for readability purposes you can define different colors for the following:

- Keywords and functions

- Numeric constants

- String constants

- Comments

When you choose Scripts, this window appears:
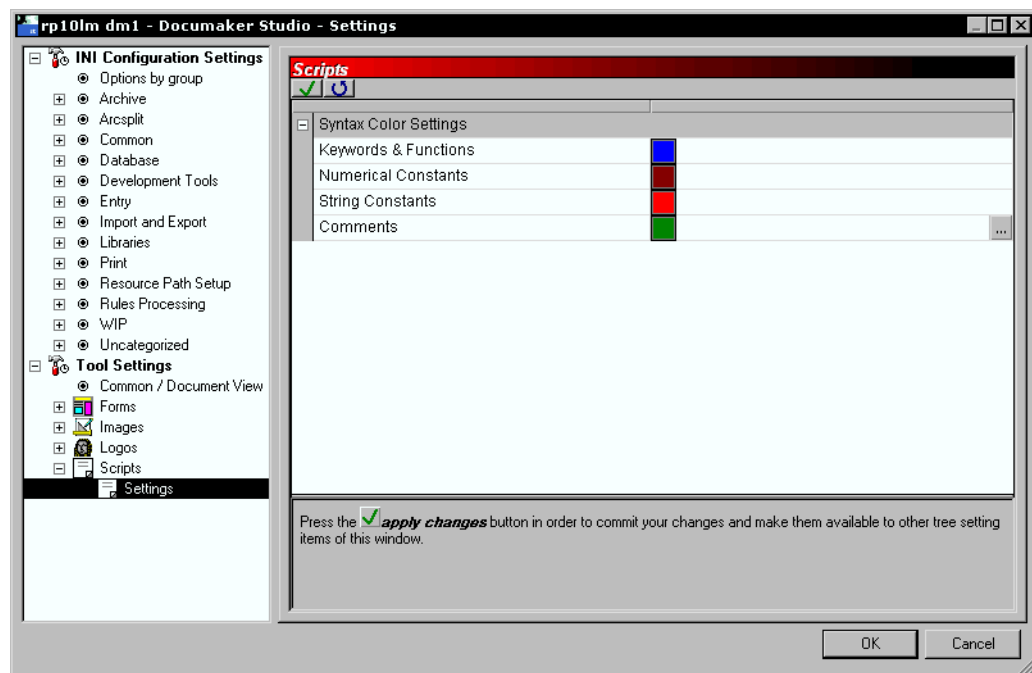
This table explains the syntax color options:

Option	Description
Keywords & Functions	Click the icon in this field to display the Color Selection screen and select the color you want to use.
Numerical Constants	Click the icon in this field to display the Color Selection screen and select the color you want to use.
String Constants	Click the icon in this field to display the Color Selection screen and select the color you want to use.
Comments	Click the icon in this field to display the Color Selection screen and select the color you want to use.

When you right-click on any field on this screen, you can choose from these options:

Option	Description
Print this Window	Print a copy of the settings.
Apply Changes	Tells Studio to record the changes you have made.
Default Settings	Tells Studio to restore the default settings.

MANAGING USERS

Choose the Manage, Users option to work with the user profiles you have set up. Here is an example of the window that appears if you are authorized to work with user profiles:

Click here to expand the list of users
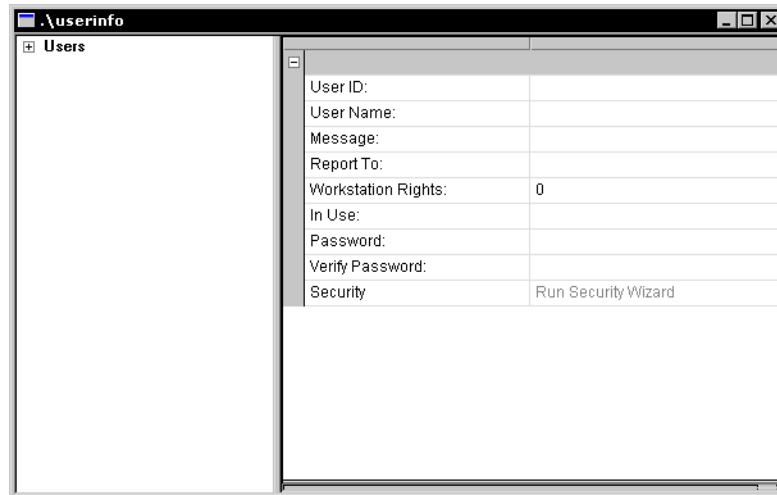
Expand Users to see a list of users currently set up to use Studio.
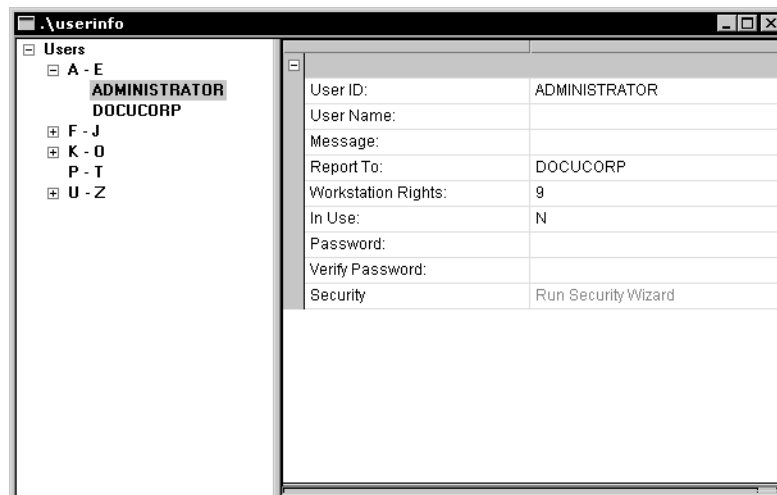
Studio shows you information about...

- The user's name and ID

- Who the user reports to

- Access rights and In Use status

It also tells you if there is a message set up to appear to the user when he or she logs in.

NOTE: Your default user ID is the same as your Windows NT user ID.

To change a user's information, simply type into the appropriate field. Note these tools on the toolbar:

Click here to add a user

Click here to delete a user   Click here to restore the previous values
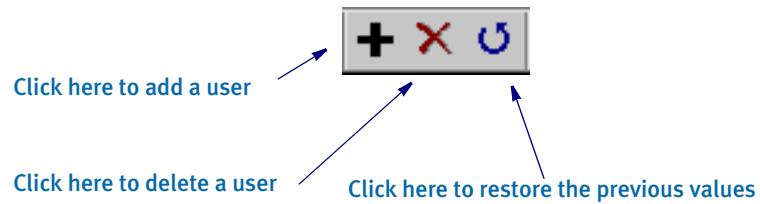
Here is an example of the login window:

Working with Business Units

Click Business Unit to maintain lines of business or business units. For example, suppose you are creating forms for an insurance company which underwrites automobile and homeowner's insurance. Each different insurance type could be considered a separate line of business or business unit.

This chapter discusses the following topics:

OVERVIEW

The business unit file defines the key combinations used to locate a specific form set. These key combinations are comprised of a Key1 and Key2 (sometimes referred to as Unit1 and Unit2; or Group1 and Group2). To continue with the insurance analogy, these keys are typically called: Company and Line of Business (LOB).

To add a new line of business or business work unit to a set of resources, you first check this file out and then make the necessary changes to define a new business unit. Here is an example of the window you use to select a Business Unit from the library:
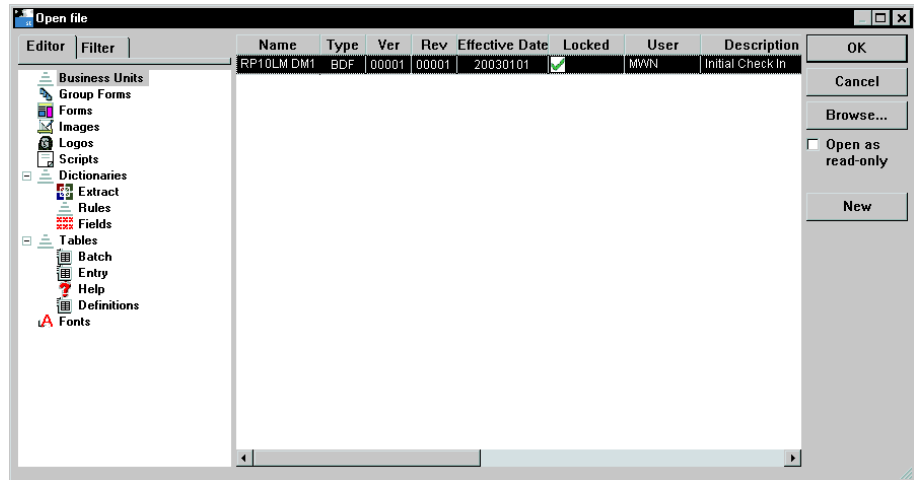
Once you select the business unit, the Business Units view appears:

A toolbar similar to this one appears above most property views.
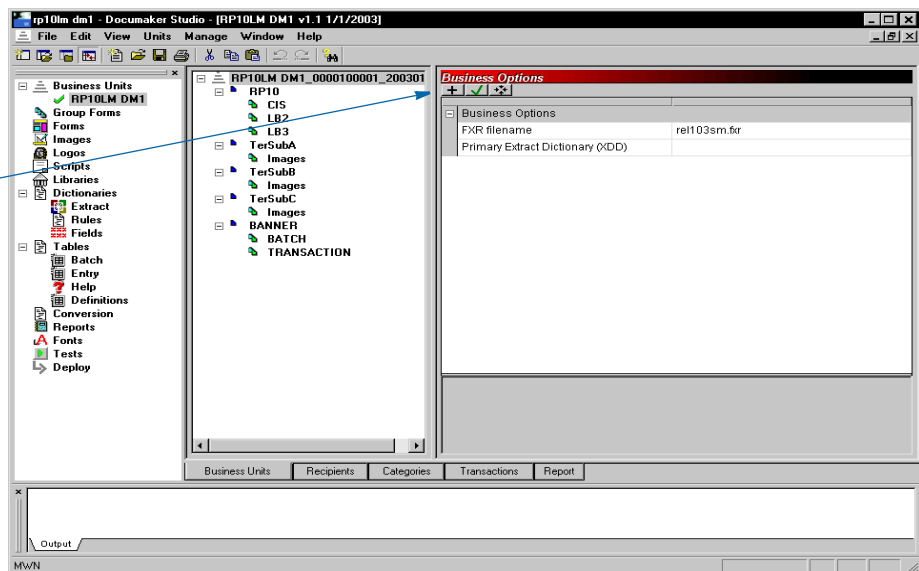
Notice the toolbar above the properties. You will see similar toolbars throughout Studio.

The plus sign lets you add an entry in the tree, list, or database. Here, it lets you add a new group name.

Click the green check mark to commit your changes to the properties options without leaving the item. If you click on another item or try to close the window, the property options are committed back to the tree or list automatically.
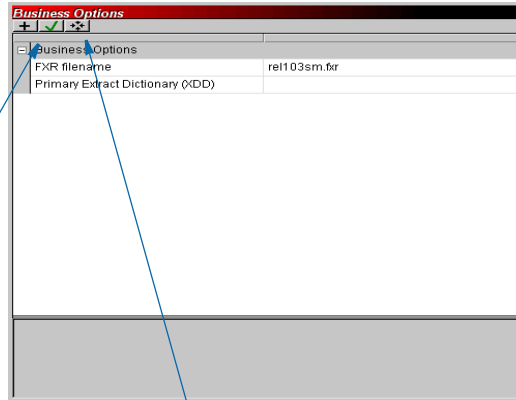
Click here to add library items into the design. For instance, from here you can select from group (GRP) files already defined in your library list.

Other global information is also stored in the Business Unit file.

THE BUSINESS UNIT FILE

The Business Unit file (BDF - Business Unit Definition File) defines the combinations of keys (groups) that represent the business units under which forms are assembled. These key combinations are comprised of Key1 and Key2. To continue with the insurance analogy, these keys are typically called Company (Key1) and LOB (Key2).

Other information stored in the BDF file includes the list of recipients, form categories (if used), and transaction type information. In addition, the business unit file identifies the primary extract dictionary (XDD) file (if used), as well as the font cross-reference (FXR) file preferred by this setup. Here is an example of a BDF file.

NOTE: This example is included for illustrative purposes. You should always let Studio create and maintain BDF files. Do not manually edit this file.

```
<DOCUMENT TYPE="RPWIP" VERSION="11.0">
<DOCSET NAME="SAMPLE_0000100001_19800101">
<FXRFILE NAME="rel103sm"/>
<XDDFILE NAME="Symbol"/>
<RECIPIENT NAME="Client" COPYCOUNT="0" CODE="001" SEQUENCE="1">
<DESCRIPTION>Client Copy</DESCRIPTION>
</RECIPIENT>
<RECIPIENT NAME="Office" COPYCOUNT="0" CODE="002" SEQUENCE="2">
<DESCRIPTION>Office Copy</DESCRIPTION>
</RECIPIENT>
<GROUP NAME="Sample_Business" NAME1="Sample" NAME2="Business"/>
<TRANSACTION TRNCODE="NB" DESCRIPTION="New Business"
DLLFUNC="TRNW32-&gt;TRNNEW"/>
<TRANSACTION TRNCODE="EN" DESCRIPTION="Endorsement"
DLLFUNC="TRNW32-&gt;TRNEndorse"/>
<TRANSACTION TRNCODE="RN" DESCRIPTION="Renewal" DLLFUNC="TRNW32-
&gt;TRNRenew"/>
<TRANSACTION TRNCODE="QU" DESCRIPTION="Quote" DLLFUNC="TRNW32-
&gt;TRNRenew"/>
</DOCSET>
</DOCUMENT>
```

NOTE: There is no category information in this example.

DEFINING A BUSINESS UNIT

The Business Unit tab shows you the properties defined for the business unit you have selected.
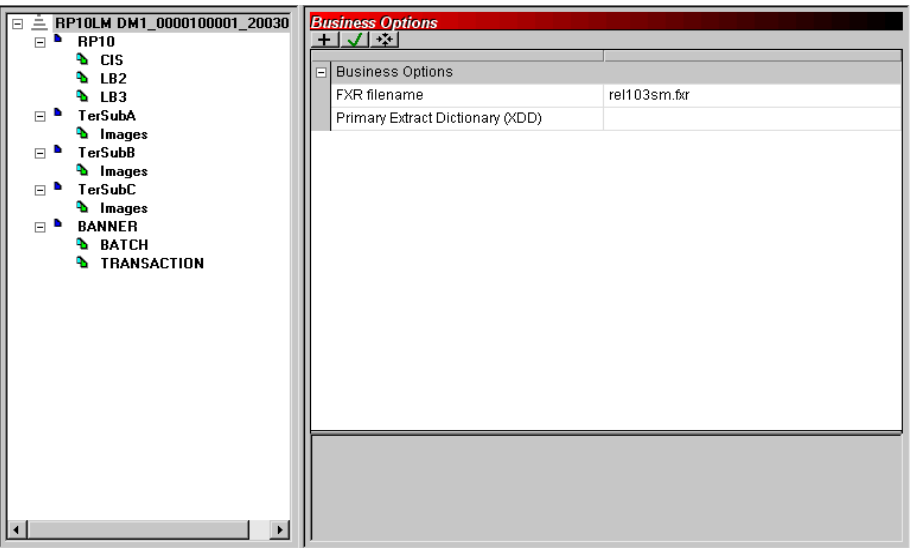
For each business unit you must define a font cross-reference (FXR) file and the primary extract dictionary (XDD) file.

Field	Description
FXR File Name	Enter the name of the font cross-reference file you want to use with this business unit definition. The font cross-reference file lets you organize the fonts you use for display and printing.
	The FXR provides all necessary font information. It does not contain the actual font files; rather, it contains information about the font attributes. Font attribute information includes formatting styles (bold, italic, and so on), point size (10 point,14 point, and so on), and font stroke eight (heavy, light, and so on).
	When you click in this field, a browse icon appears which you can use to browse to the FXR file you want to select.
	Note: If an FXR file is specified in your INI files, Studio will use that file instead of the one you name in this field.
Primary Extract Dictionary (XDD)	Enter the name of the XDD file you want to use with this business unit definition.
	The XDD file contains information on how to transfer the data from external files (sometimes called extract files) into fields defined within your documents. If your setup is not a batch implementation, you would not normally need an XDD file.
	When you click in this field, a browse icon appears which you can use to browse to the XDD file you want to select.

If you click on a specific business unit definition, the view changes to show you the appropriate fields for that definition. Here is an example:

Click the X to delete a business unit group definition
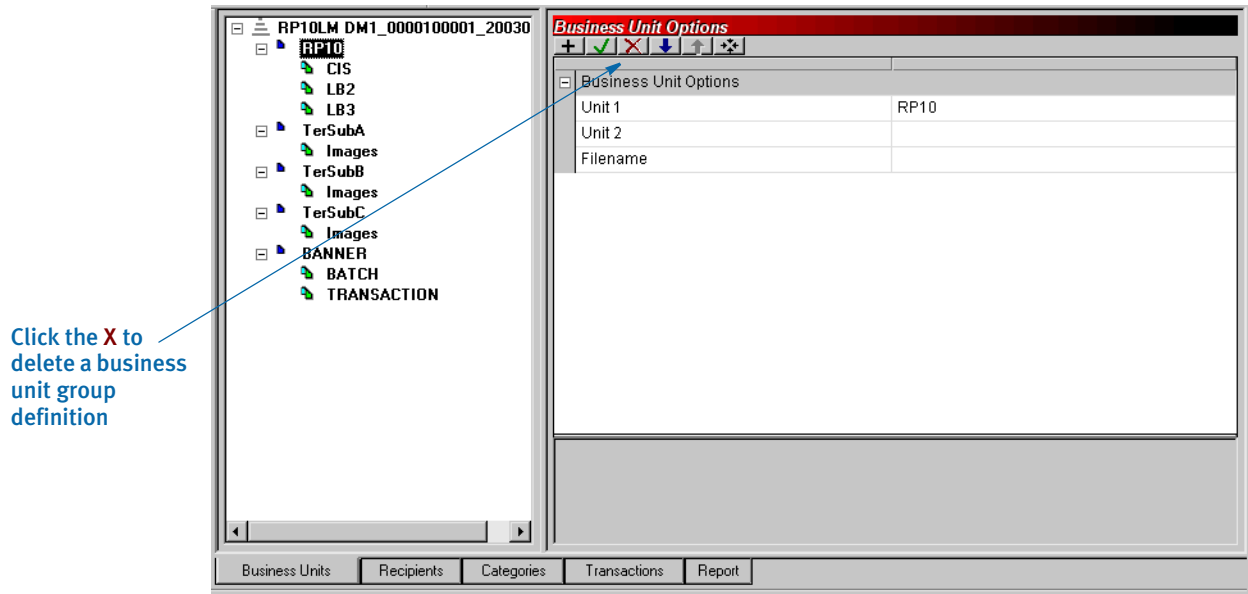
The toolbar changes to provide some additional options.

To	Click
Delete a business unit group definition	X
Change the order of an item (if the item can be ordered). Press the up arrow to move the item higher in the tree. Press the down arrow to move the item lower in the tree. The order of the groups defined within the BDF will be the same order used when form selection is shown within the Entry program. For batch processing, the order of the groups at the BDF level is not usually important, but you may experience a minor improvement in performance if the groups that are most often used are defined closer to the top of the tree.	↓↑

If you click a top level item (under the root), you can define or modify a Unit 1 level name. Clicking on a second level item lets you define the Unit 2 name. This item is subordinate to the Unit 1 defined as its parent.

The property area lets you define the unit names, and for level two items, you also must define the external (library) file name that contains the available forms list for this particular combination. This file is referred to as a Group (GRP) Forms file.

In the Filename field you can enter a name or select the GRP file from the library by clicking on the associated button. Remember that certain platforms can have file naming requirements that are not automatically enforced by Studio. You must make sure the file names you assign are compatible with the platform you will eventually process on.

If you click on an item in the business unit group definition, Studio adds the Extract Dictionary Override field.
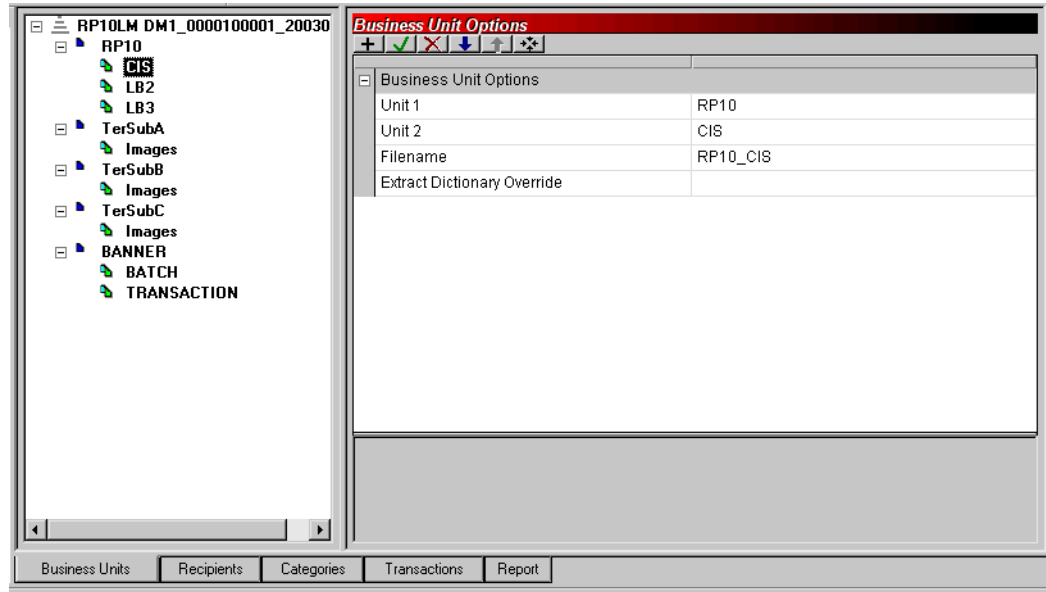
Use the Extract Dictionary Override field to define a different XDD than the primary XDD defined at the BDF (root) level. You can leave the name blank, if you want this business unit to use the primary XDD definition. Otherwise, you should enter the appropriate name or browse the library for the appropriate XDD file to use.

During batch processing, when the system maps fields it checks the associated group level for a defined symbol (XDD) file. If one is not defined, it queries the BDF (root) level for the primary XDD. If one is not defined there, it chooses the one specified in this INI option:

```
< MasterResource >
    DictionaryFile =
```

STORING
RECIPIENT
INFORMATION

Click the Recipients tab to manage the list of recipients for your documents. Here is an example:

Here you define the recipient type name, such as Insured or Customer; the sorting code, which is used by batch implementations; and a brief description that will display in Send Copy To fields defined in your document when you print that document for that recipient.

Understanding the System

There are two parts to the recipient definition in the Recip_Names control group. The first part is a code and the second is a description. The code is only used in batch processing (the GenData program) and is a unique value written to the batch files to the system will know which recipient to queue at print time.

The second part is the description field. This is used any time a SendCopyTo field is printed. This is where the text like *Insured's Copy* comes from when you print. This is used by both entry systems like Documaker Workstation or iDocumaker and the GenPrint program.

When a batch cycle begins, the list of recipients defined in the Business Definition file is inserted into the Recip_Names control group used by several of the Documaker RP programs.

Field	Description
Name	Enter the name of the recipient you want to add.
Code	Assign a code to the recipient.
Description	Enter a description of the recipient.

DEFINING CATEGORIES

Click the Categories tab to define form categories.
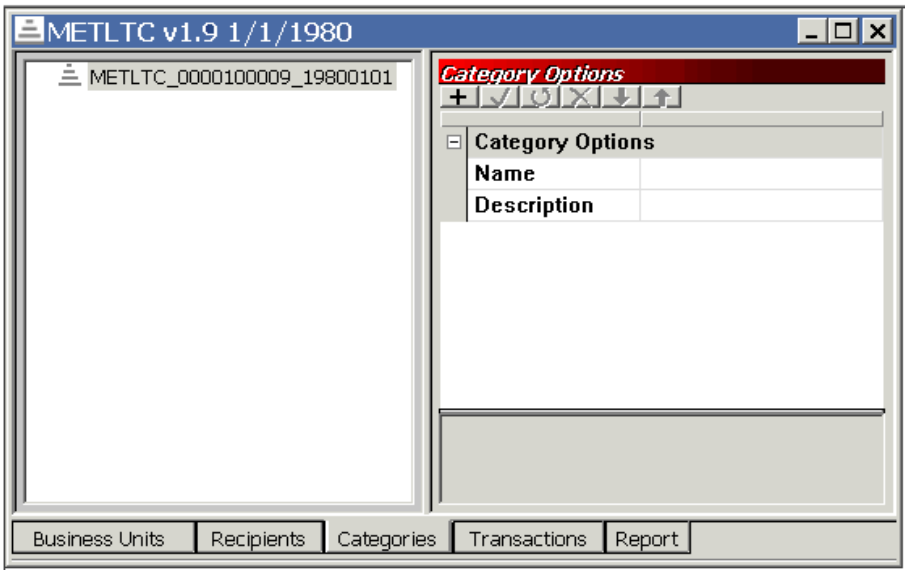
Form categories are optional. If you define them, the form categories appear when you edit a group (GRP) file. The category definitions can help you organize large sets of forms by letting you associate similar forms to make the list more manageable. Categories are not the same as the higher level key groups (Key1 and Key2) and are not used during form triggering or selection.

Field	Description
Name	Enter the name of the category you want to add.
Description	Enter a description of the category.

DEFINING TRANSACTION TYPES

Click the Transactions tab to define transaction types and optionally assign an Entry Workstation-affiliated hook function associated with form selection.

NOTE: Batch implementations do not use the associated hook function.

Transaction codes are sometimes used in batch processing as one level of form filtering. Transaction codes are also used in Entry/WIP situations to identify the type of transaction being created.

Also in Entry, the DLL and Function declarations define internal or external hook functionality that must be executed on that transaction type to validate the list of forms selected.

Field	Description
Transaction Code	Enter the transaction code you want to add.
Description	Enter a description of the transaction code.
DLL	Enter the name of the DLL you want the Entry system to execute to validate the list of forms.
Function	Enter the name of the function you want the Entry system to execute to validate the list of forms.

GENERATING REPORTS

To generate a report which shows the options defined for this business unit, click the Report tab and follow these steps:

1 This window appears when you click the Report tab. Click Generate Report.

Click here to generate a report
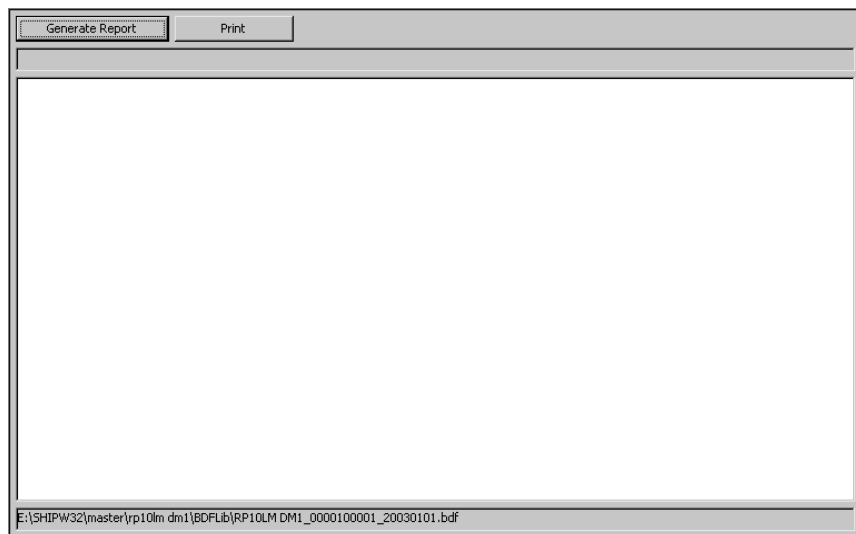
The Reports window appears

2 Highlight the report you want to generate, in this case a Base Definition Report, and Click Next. The Generate Report window appears.
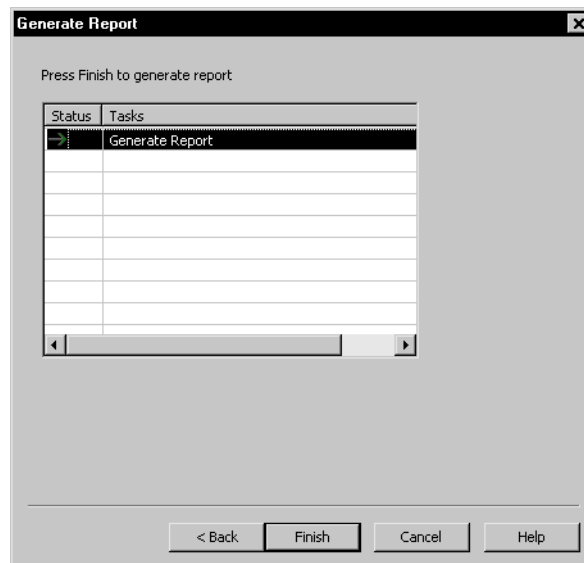
3   Click Finish to generate the report. A sample report appears below:

Click here to print the report.

Working with Group Forms

Click Group Forms to define a list of the forms that apply to each business unit and to maintain form-level triggering information. You can also define the order in which these forms should be provided.

Information about each group of forms is stored in a file with a *GRP* extension. For each group (Key1/Key2), you have a separate GRP file. Group name (Key1/Key2) information is stored in the BDF file, whereas specific information for each of the forms that make up the group is stored in a GRP file.

This topic discusses:

CREATING A GROUP

To begin the process of grouping forms, you must first create a group. Follow these steps:

1   To create the group, double click on Group Forms. Then click New on the Open File screen.

Double click on Group Forms.

Then click New.
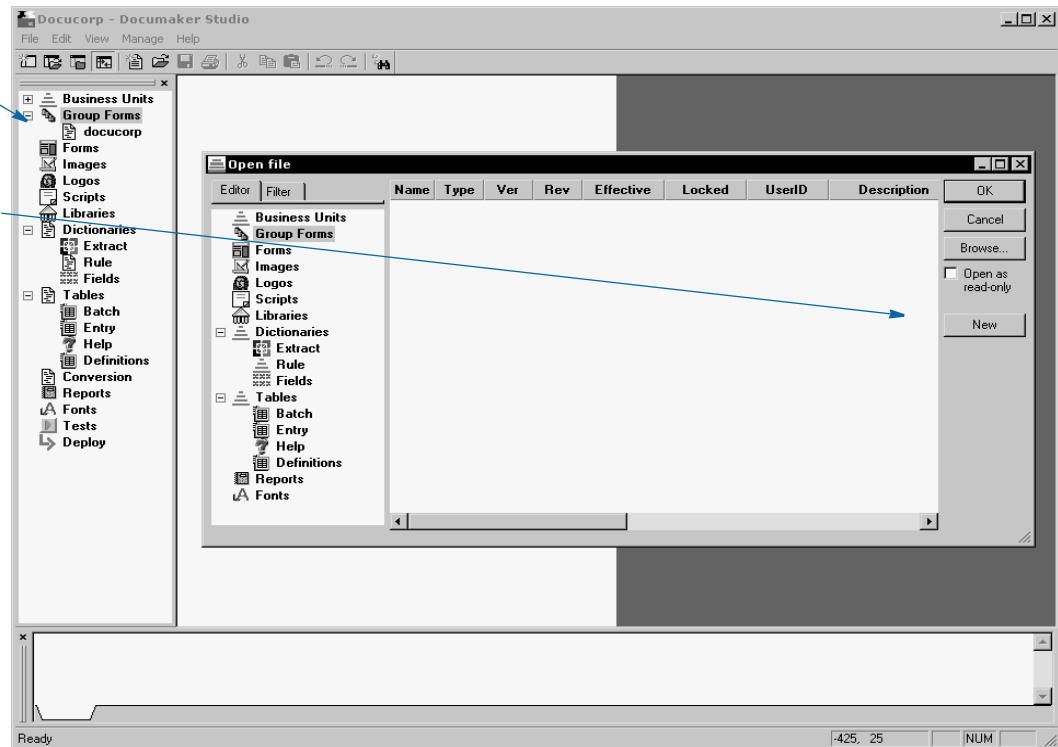
You can also right click on the Group Forms option and select New, leave Group Forms highlighted on the next screen and click Ok.

The screen below appears.
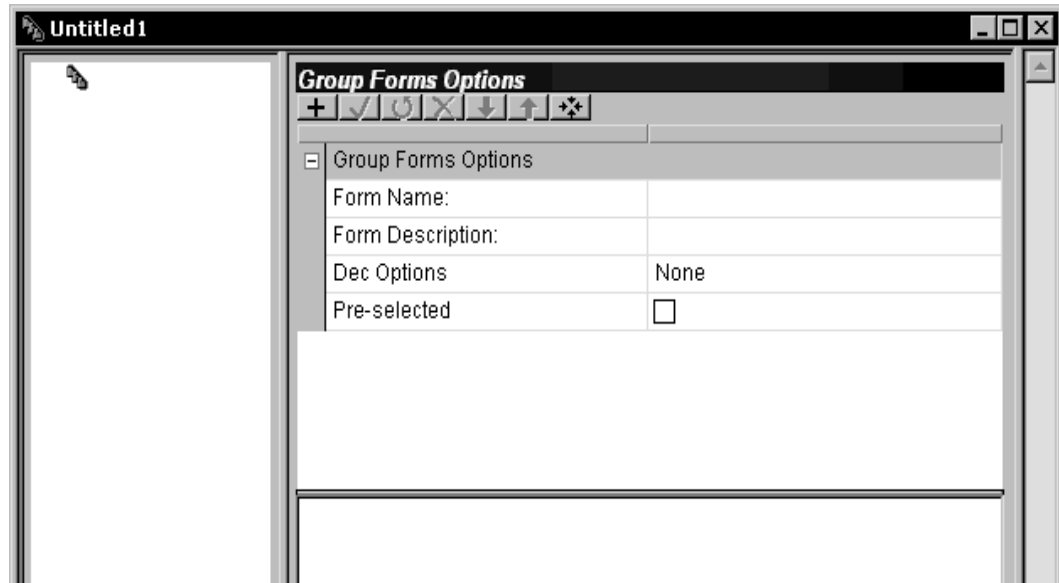
2   Enter the following information to set up the forms you want included in the group in the following fields on the Forms tab. Keep in mind that the forms do not have to exist at this point, you are merely creating a list of form names and defining some of the options that apply to those forms.

Field	Description
Form Name	Enter the name of the form you want to include in the group. You can enter up to 100 characters. This name appears on the Forms Selection window in Documaker Workstation
Form Description	Enter a description of the form. You can enter up to 100 characters. This description appears in the object tree beside the form name. This description can help a Documaker Workstation user select the correct form.
Dec Options	Choose the appropriate declaration page option. Your choices are: None - Any page other than a policy declaration page Dec Page - A policy declaration page Master Dec - A master declaration page for the form set (package policy) Sub Dec - A sub dec page for one group in the form set This option is only used by Documaker Workstation. What you select here determines the manner in which Documaker Workstation presents declaration pages during entry.This option is ignored during batch processing.
Pre-selected	Check this option if you want Documaker Workstation to automatically select this form during entry.
Filename	Enter a file name for this form. Usually, you would keep the form name and the file name the same, but some platforms will not let you use certain characters in file names.

NOTE: Because Dec Options and the Pre-selected fields are stored at the group level, you can reuse the same form in different groups.

3   Choose File, Save to save your work. The Save As window appears.

Enter the name of the group in the Filename field.

Understanding the System   Another way to create a new group forms list is to select the Edit File option from the Key2 (LOB) level while working with business units. This option will create a new file if one does not exist.

OPENING A GROUP

To modify a group file, follow these steps:

1   Click the plus sign (+) to the left of Group Forms and then select the group you want to work with.

Click here.

Then select the group list you want to work with.
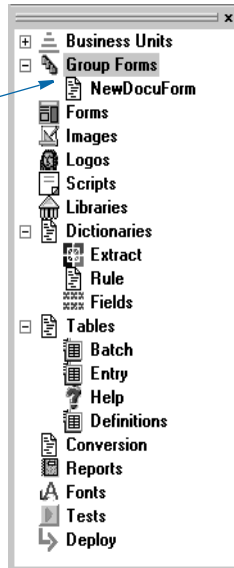
The following window appears.
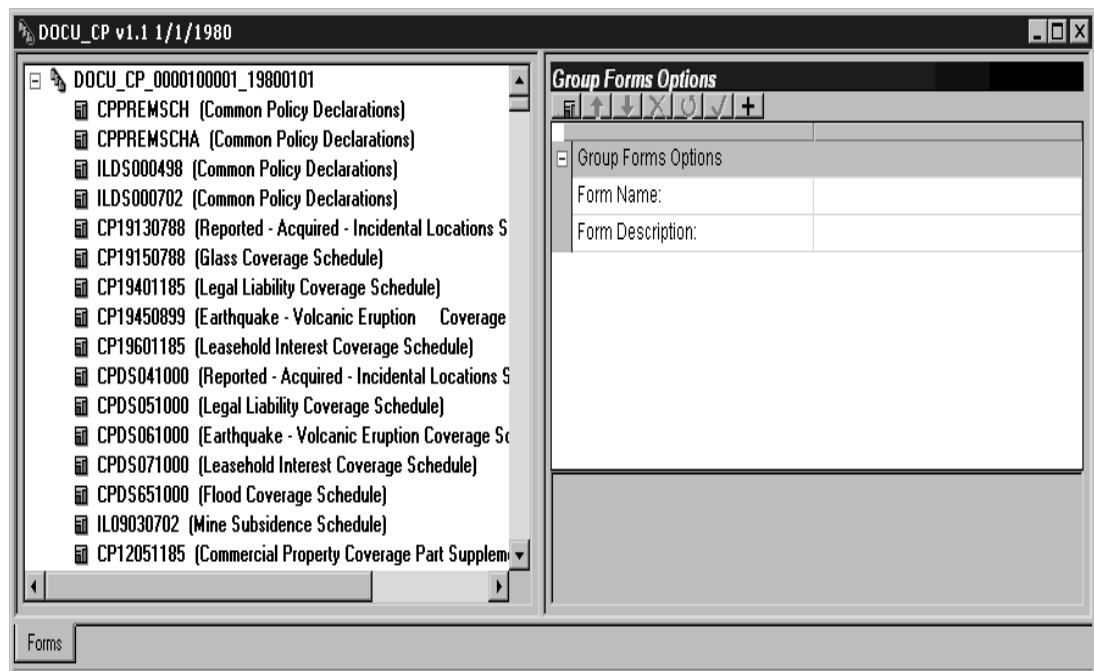
2   Make any necessary changes.

SETTING UP
TRIGGERS

You can create triggers at both the form and image level. Form level triggers are stored at the group level and specify the condition that would cause a form to be included (or triggered) with a transaction. You should always specify a trigger for a form.

Understanding the System

Image level triggers are stored at the form level and specify the condition that would cause the image to be included on the form. Only set up image level triggers if the image's presence on the form is conditional.

Studio assumes you do not want to trigger any of the images that comprise a form if the form level trigger is false. Therefore, image level triggers are automatically ignored when the form level trigger for the transaction being processed is false. This makes the use of an *M* occurrence flag unnecessary if you want the system to only evaluate image level triggers when the form level trigger is true, as was the case in Docucreate's Image Editor.

If you omit a form level trigger, the system does not operate as efficiently since every image level trigger must then be evaluated by the system.

Follow these steps to add form level triggers.

1   Highlight Group Forms, right click and select Open.

2   Select the group file in which the form is located and click Open.

3   Click the Triggers tab.
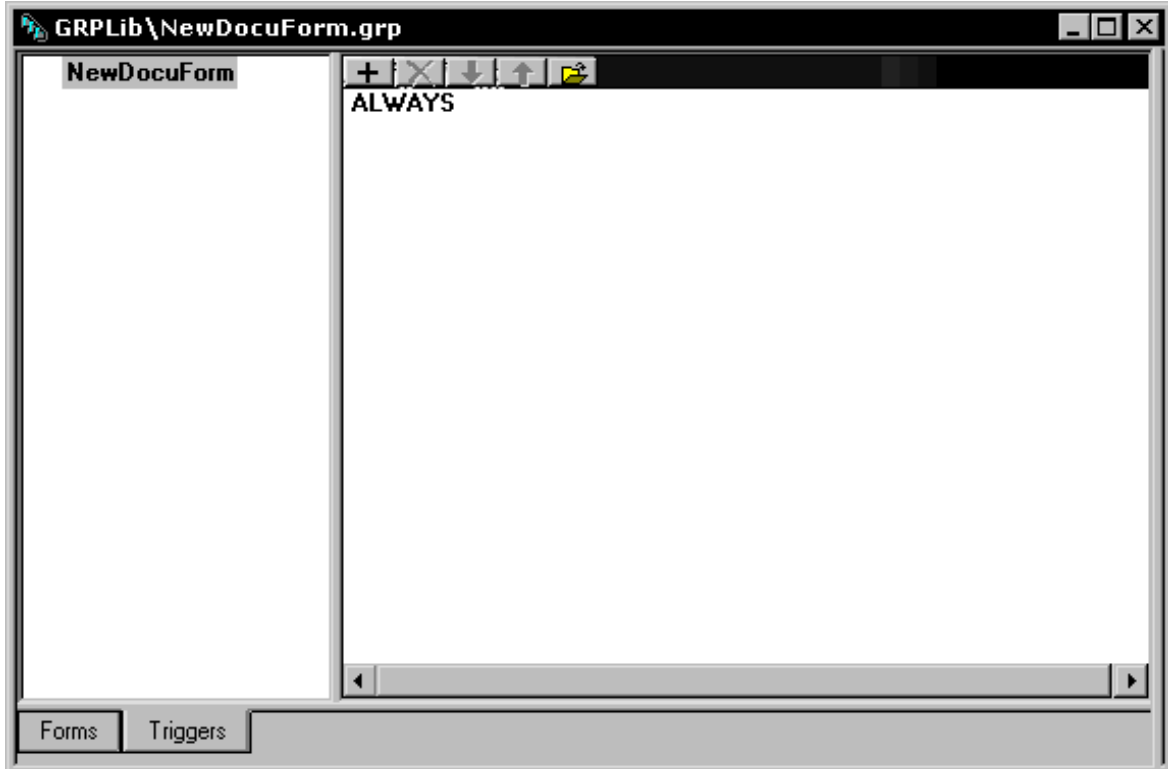
4   Highlight the form to which you wish to add a trigger and right click. Select Add. The SetRecip table appears.
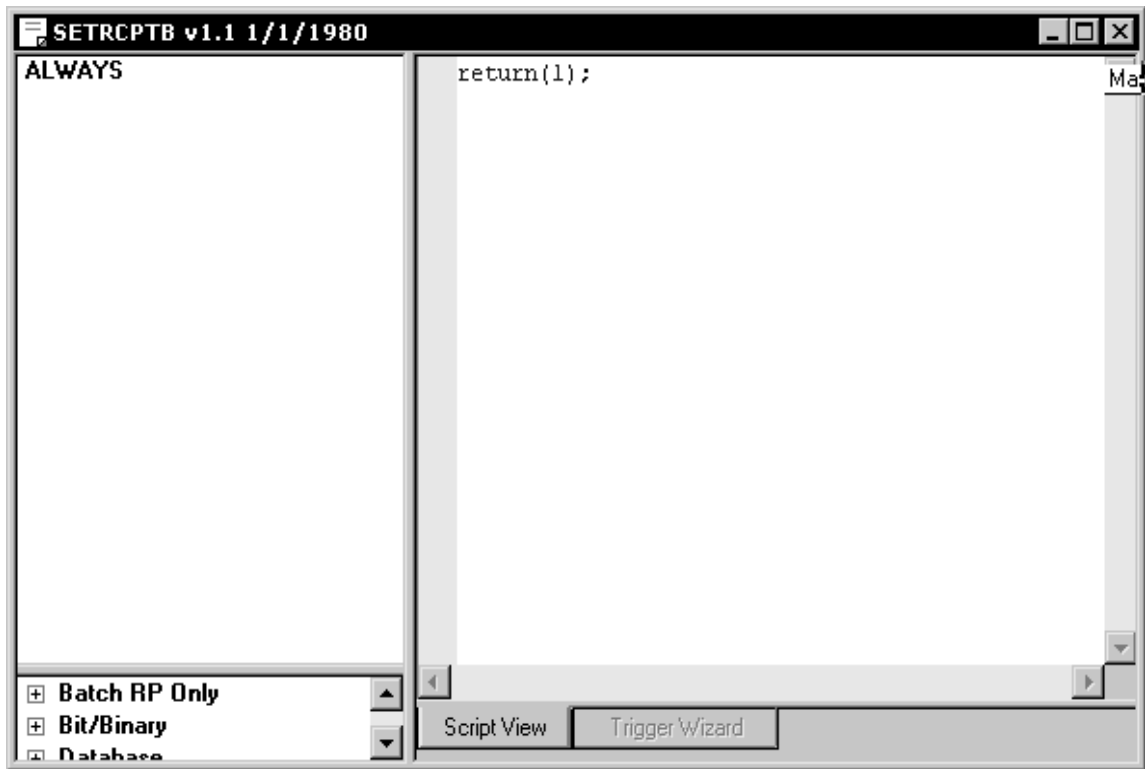
5   Use the Trigger Options fields to set up the triggers for your form.

Editing a trigger   If you need to modify a trigger, right click on the trigger and select Edit Trigger File. The SetRecip table appears.

You can also highlight the trigger and click on this icon:

Click here to open the SetRecip table.
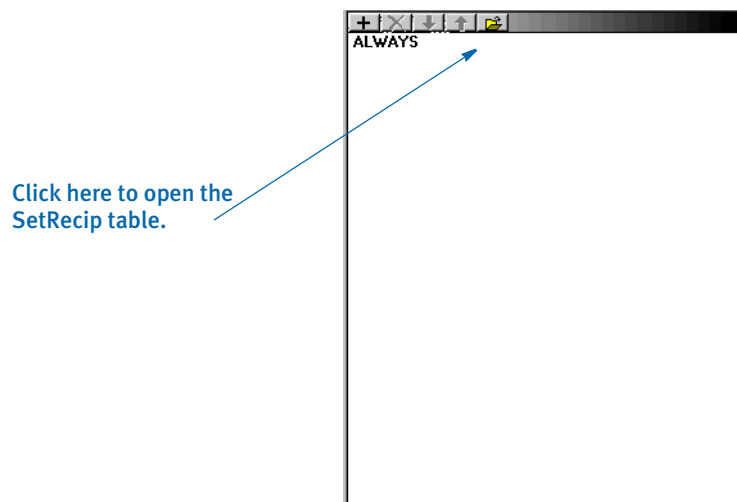
SETRECIP OPTIONS The SetRecip Table lets you specify the conditions under which a form or an image will get triggered. Depending upon the requirement, not every field is completed. This table discusses each field:

Section	Field	Description
SetRecip	Transaction Codes <TRANSCDS>	By including one or more Transaction codes in this field, you trigger a particular form (or image) only if the extract file record includes that particular Transaction Code.
	<RECIPS>	
	Search Mask (Counter) <MASK1>	Lets you set the criteria to determine whether or not a form (or image) belongs in the form set. The criteria allows the Rules Processor to get specific data from the extract file. Adds one form (or image) for every occurrence of the search mask per transaction. The Occurrence Flag must be set to one (1) for the search mask to act as a counter.
	Occurrence Flag <OCCURRENCE>	To use the search mask as a counter, the Occurrence Flag (overflow) must be set to one (1). Use with the Search Mask Counter, Records on Different First Image, and Records Per Overflow Image fields. (0=no overflow and 1=overflow) Performance issue flags in this field include: - Master (M) form level trigger flag - Form (F) form level trigger flag - Subordinate (S) image level trigger flag
	Records on different first image <RECSPER1ST>	Lets you indicate the number of records that appear on the first image before overflowing to a new image.
	Records per overflow image <RECSPERIMG>	Lets you specify the number of records matching the search mask that will fit on the specified overflow image. If the value is zero (0) and the Occurrence Flag is set to one (1) with the Search Mask Counter set, the system automatically sets this flag to one (1) to perform the overflow calculations.
	Search Mask (True/False) <CONDITIONAL>	Similar to Search Mask (Counter), but only one form (or image) is triggered, regardless of how many occurrences of the condition exists.
	Custom Rule Name <FUNCTIONNAME>	Normally used for custom implementation requirements. Only exceptions are RECIPIF and RECIPCONDITION rules.

Section	Field	Description
	Custom Rule Parameters <DATA>	Specifies parameters for the custom rule used in the Custom Rule Name field.
Recipient	Form Level Trigger Recipient Copy Count <RECIPCPYCT>	
	Image Level Trigger Recipient Copy Count <RECIPCPYCT> Recipient names listed with no check or a check	Defaults the recipient copy of each recipient defined at the form level If recipient was eligible in the form file, it is checked here.

Managing Forms

Click Forms to work with the list of images that comprise the form and maintain image-level triggering information. The triggering information determines what criteria must exist for this form to be included in a form set.

This chapter discusses the following topics:

OVERVIEW

A form is a single document containing one or more pages or images. Most forms contain multiple pages that are usually printed on both sides of a single sheet (duplex). Some forms are printed only on one side (simplex). Typical forms include insurance policies, tax returns, and mortgage documents.

The information for a form is stored in a file with an FOR extension. For each form you create, you have a separate FOR file. A form is listed in a GRP file, whereas the specific information for each form is stored in a separate FOR file.

A form includes two types of data: *fixed* and *variable*.

- *Fixed* data is the same on every copy of the form. This includes items such as logos. This information remains constant regardless of the data entry.

- *Variable* data may differ from form to form. This includes items such as individuals' names, addresses and policy numbers. This information relates to the specific data processed on each form.

A single form consists of one or more images. Since multiple forms and images make up a form set, you can view and navigate through each form and image individually.

Forms consist of one or more images

Form 1
- Image C
- Image B
- Image A

Form 2
- Image F
- Image E
- Image D

A form may consist of multiple images, and consequently you can view the varying images within a form by displaying different pages of the form.

An image can contain varying sections on one page. For example, an automobile insurance application form could consist of three images. The first image or page may contain three separate *sections*: a section for listing the automobiles you want to insure, a section for recording household driver information, and a section for selecting the type and amount of coverage you want for each vehicle. Using the page display options, you can zero in on and view the beginning of a particular section of the insurance application image.

Images consist of one or more sections

Form 1

Image C

Image B

Image A

Section 1

Section 2

Section 3

Objects   Objects are the individual items which comprise your image. Examples of objects are boxes, barcodes, lines, graphics, and text. All objects have unique attributes within the image. Attributes include items such as position, size, font type, and color.

USING THE SCREEN

Studio places all the tools you need to manage your forms at your fingertips. The screen is your forms work area. It is important to become familiar with the general screen layout and parts of the screen. Understanding the screen layout will help you work quickly and efficiently.

The first window that appears when working with forms is shown here.

Title bar
Menu bar
Tool bar
Workspace
Status bar

Image tree
Form or image properties
Work area

Item	Description
Title bar	The title bar displays the name of the workspace you have open, followed by Documaker Studio, and then the name of the form you have open.
Menu bar	The menu bar provides the list of available pull-down menus.
Tool bar	The tool bar contains a row of icons that provide quick access to common options.
Status bar	The Status bar gives the coordinates of the mouse pointer in the work area. The mode of operation, such as ready or edit, also appears here.
Workspace	The workspace lets you quickly access different items. It also shows which specific resources that are checked out (green check mark), which resources are checked out by another user that you would only have read-only access to (red check mark), and which resources are open in read-only mode or have never been checked into the library.

Item	Description
Image tree	Shows the images that comprise the form.
Form or image properties	Depending upon whether you highlighted a form or an image, if you click the Properties tab, Studio shows you the properties for that form or image. If you click the Triggers tab, Studio shows you the triggers for that form or image.
Work area	This is where you add, delete, or re-arrange the images that comprise the form. You can also test entering data onto the form.

USING THE MENU BAR

This section introduces you to the pull-down menus which include additional options or are only available when you are working with forms. A summary of each of these menu appears below. The menus are listed in the order they appear on the menu bar.

NOTE: For information on the standard menus and menu options which are always available, see Using System Menus on page 14.

Menu	Description
Image	The Image menu lets you add, delete or move images on the form.
Trigger	The Trigger menu lets you add, delete or rearrange the triggers that tell the system when to include or exclude a form.

Using the Image Menu

The Image menu provides options useful when you are adding an image to a form.

Option	Description
Add	
Page	Adds a page to the form.
Image	Adds an image to the form.

Option	Description
Group	Adds a group begin image. When you add a group begin image, a group end image is automatically added. This lets you associate images and optionally assign a common trigger to all of them. You can drag and drop or create images between the *group begin* and *group end* images to indicate they are part of the group. A form group can optionally have a group rule associated with the *group begin* image.
Delete	Deletes the highlighted image.
Move up	Moves the highlighted image up.
Move down	Moves the highlighted image down.
Data Entry Check	Lets you perform form level data entry check.

Using the Trigger Menu

The Trigger menu provides options for working with image triggers.

Option	Description
Add	Adds a trigger to the highlighted image.
Delete	Deletes the highlighted trigger.
Move up	Moves the highlighted trigger up.
Move down	Moves the highlighted trigger down.

USING THE WORKSPACE MENU

The workspace area is the area to the far left of the screen. From the workspace, you can open different modules within Documaker Studio. It shows which resources are...

- Checked out (green check mark) by you

- Checked out by another user and you would only have read-only access to (red check mark)

- Open in read-only mode or have never been checked into the library
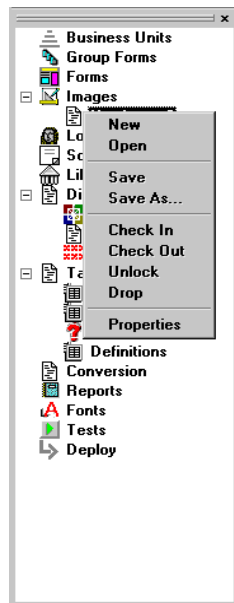
Option	Description
New	Use to create a form.
Open	Use to open a form.
Save	Use to save an opened form.
Save As...	Used to save an opened form with another name.
Check In	Use to check in a form that has been checked out when you want to save the changes.
Check Out	Use to check out a form that is in the library when changes need to be made.

Option	Description
Unlock	Use to unlock a form that is open when you want to release it back to the library without saving changes.
Drop	Use to temporarily remove a form that appears in the list that is a library item. Permanently remove from the list a form that is not a library item. Unlock or check in permanently removes a library member from the working list.
Properties	Use to display properties of the form.

USING THE TOOL BAR

The tool bar is useful because it serves as a quicker route for performing some functions that may be listed on a drop down menu. Here is an example of the tool bar shown when you are working with forms:

Standard tool bar icons

Shown below are the tool bar icons that are always available. The icons are listed as they appear, from left to right.

Table 1:

Icon	Name	Description
	New Workspace	Creates a workspace.
	Open Workspace	Opens workspace.
	Close Workspace	Closes a workspace.
	Toggle Workspace	Toggles between displaying and hiding the workspace.
	New	Creates a file.
	Open	Opens a file.
	Save	Saves the open file.
	Print	Prints the current object.
	Cut	Removes an object and places it on the clipboard.
	Copy	Copies an object and places it on the clipboard.

Table 1:

Icon	Name	Description
	Paste	Places an object from clipboard onto the current file.
	Undo	Reverses your last action
	Redo	Reverses last undo.
	Help	Displays the Help Context window

Form tool bar icons   Shown below are the tool bar icons that appear when you are working with forms.

Table 2:

Icon	Name	Description
	data entry check	Lets you test entering data onto a form.

CREATING A FORM

To create a form, follow these steps:

1 Double click on Forms. The Open File window appears.
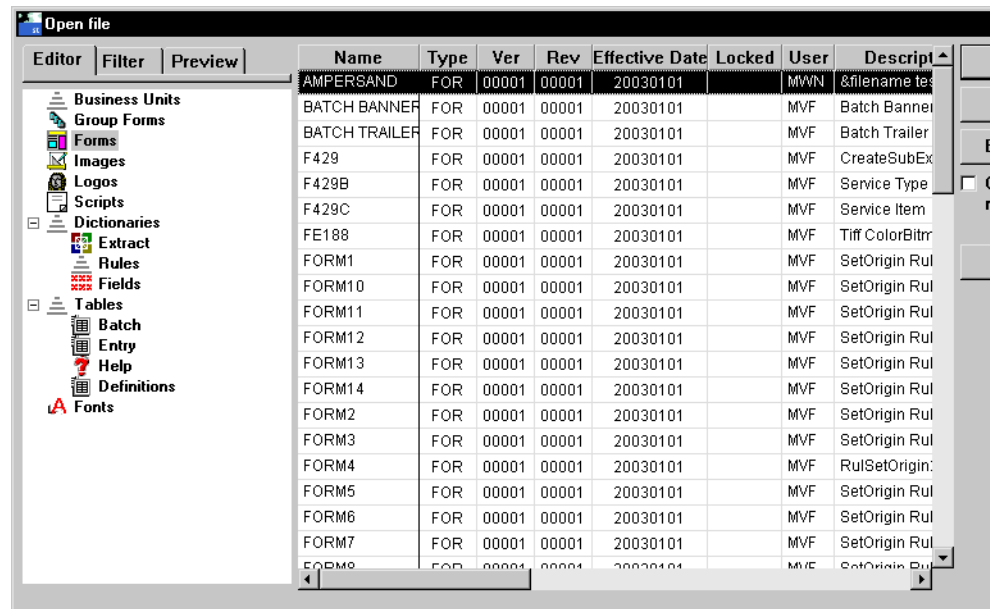
NOTE: You can also right click on Forms and select New, then click Ok on the Forms window.

2 Click New on the Open File window. This window appears.
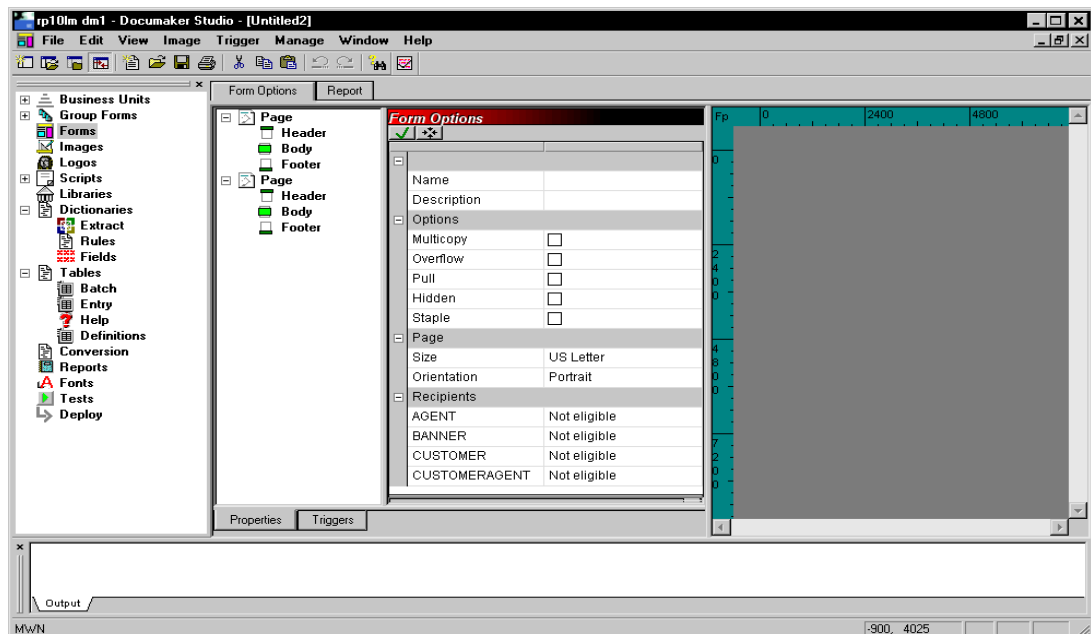
3 To define the form, make the appropriate entries in these fields:

Field	Description
Name	Enter the form name. You can enter up to 100 characters. This name appears on the Form Selection window in Documaker Workstation.
Description	(optional) Enter a description of the form. You can enter up to 100 characters. This description appears beside the form name when you are working with Groups. It also can help Documaker Workstation users make sure they have the correct form.
Multicopy	Check this field if more than one copy of the form can be used for a transaction. This only affects Documaker Workstation.
Overflow	This field is for legacy use.
Pull	Check this field if the form is manually inserted into the form set as needed — there is no electronic image. This only affects Documaker Workstation. To add a pull form, you must check this field, then on the Image List window, highlight the blank line and click List. Highlight End of List on the Recipient window and click Add. Next add a recipient with a copy count of one (1) and click Ok.
Hidden	Form is hidden from view in the entry environment but data can be embedded on the form for later use.
Staple	Forms on certain Metacode and PCL printers can be stapled.
Size	Choose the paper size, Only the most common are listed: Letter - prints on default paper size (8.5 x 11) Legal - prints on legal paper (8.5 x 14) A4 - prints on standard European paper (210mm x 297mm) Executive - prints on executive paper (7.25 x 10.5)
Orientation	Choose from portrait or landscape. The default is portrait.
Recipients	Studio shows you the names of the recipients defined by the Recip_Names INI option. For each recipient, you can specify whether the recipient should receive: - One copy - Two copies - Three copies - A number of copies set via DAL (if not overridden by a trigger) - A number of copies set via a GVM variable (if not overridden by a trigger) - Eligible - The recipient is not eligible to receive copies of this form.

4 To save the form, choose File, Save. Once you have saved the form, you can check it into the library using the File, Check in option.

NOTE: You can use the icons at the top of the option area to save the changes or insert an image from the library or disk.

To define image-level triggers, see Setting Up Triggers on page 104 and SetRecip Options on page 107.

MODIFYING FORMS

Follow these steps to open and modify a form:

1   Double click on Forms. The Open File window appears:
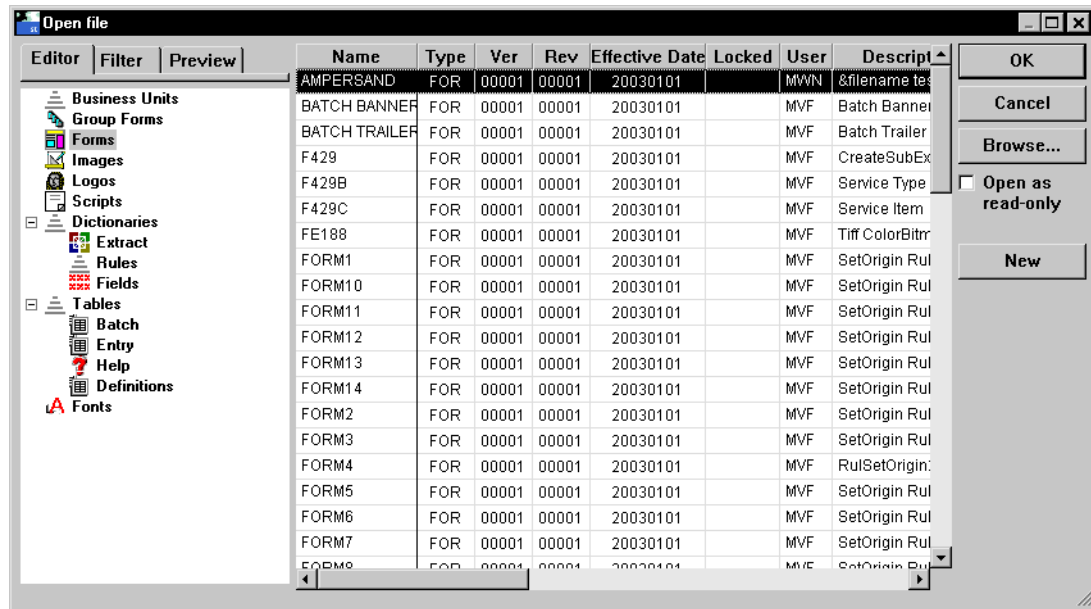
2   Select the form you want to work with and click Ok. When you check out a form for editing or viewing, the Form View window appears. Inside the Form View there are several panels that show information about that form.
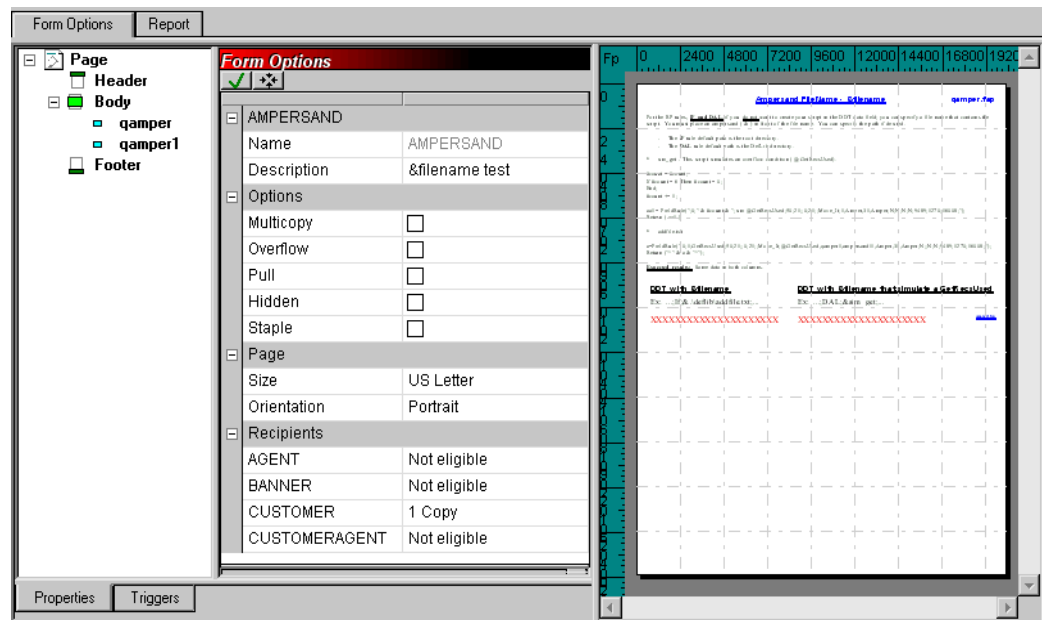
The first panel shows a tree view of the images that comprise the form. The images are segmented by page and whether they are designated as a *header* or *footer* images.

The next panel shows you the property settings for the active object. This is where you add or modify the property settings.

The final panel includes a preview of the form that shows the default layout of the images. You can scroll through this panel to see all the pages defined for the form.

If you click on the Triggers tab. The window changes as shown here:
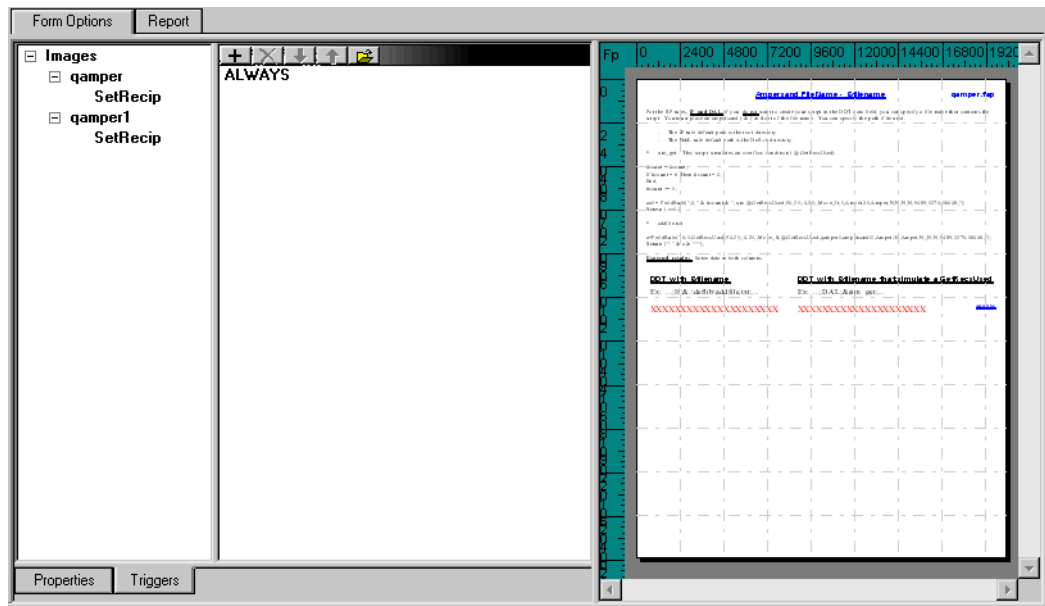
The tree view shows you the form and image triggers associated with each. As you click on a trigger in the tree, the Property window shows you the various attributes associated with that trigger.
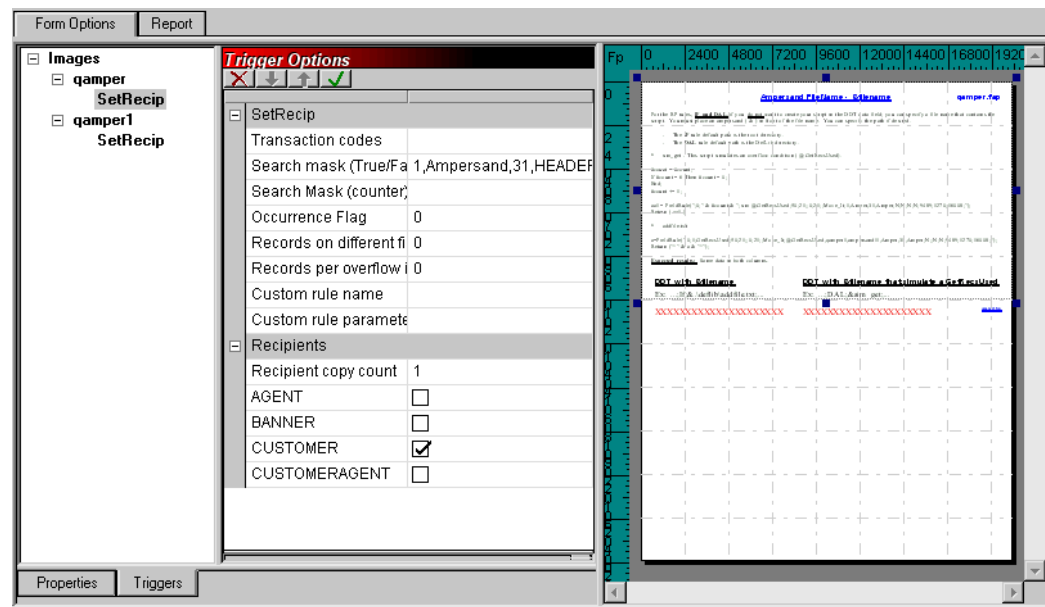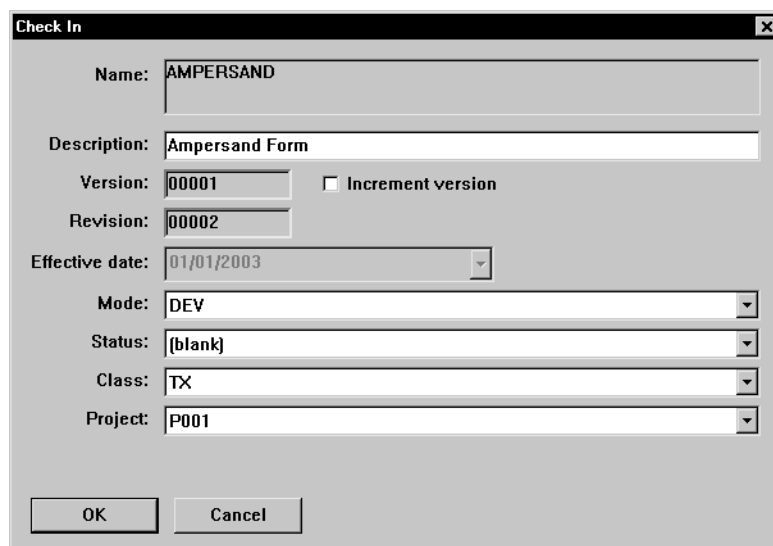
NOTE: There are two types of triggers. The ones shown in the examples are the standard triggers which have been in use through prior releases. Newer triggers are actually given names that appear in the tree. The attributes displayed in the Property window will differ.

Note you can resize the various components of the view to suit your needs. For instance, you can zoom the Preview panel to make images larger or smaller and you can scroll to view a particular page.

NOTE: For more information on image-level triggers, see Setting Up Triggers on page 104 and SetRecip Options on page 107.

3   When you finish modifying a form, select the File, Check in option to save the form and check it into the library. The File Information window appears.

4   Set the library attributes that apply to the form and the changes you made.

NOTE: To learn more about the Mode, Status, Class, and Project fields see Managing Resources on page 171.

This window shows you the previous library settings for this form and lets you set new values. You set up the various modes, statuses, classes, and project codes elsewhere, but this window lets you choose the appropriate entry from predetermined lists.

The revision number is automatically set for you. When you specify that you intend to create a new version of the document, you can then enter a new effective date for that version.

5   Click Ok to check the document back into the library and make it available for others sharing the same resources.

Dropping a form   Dropping a form does not delete the actual FOR file, but does remove it from the library and from the list. To drop a form, highlight the form and then right-click. Select Drop.

SETTING UP
TRIGGERS

You can create triggers at both the form and image level. Image-level triggers are stored at the form level and specify the condition that would cause an image to be included (or triggered) with a transaction.

Image level triggers are stored at the form level and specify the condition that would cause the image to be included on the form. Only set up image level triggers if the image's presence on the form is conditional.

Studio assumes you do not want to trigger any of the images that comprise a form if the form-level trigger is false. Therefore, image level triggers are automatically ignored when the form level trigger for the transaction being processed is false.

NOTE: If you omit a form-level trigger, the system does not operate as efficiently since every image-level trigger must then be evaluated by the system.

Follow these steps to add image-level triggers.

1   Highlight Forms, right click and select Open.

2   Select the form and click Ok.

3   Highlight the image to which you want to assign a trigger and click on the Triggers tab.

Click the Triggers tab.
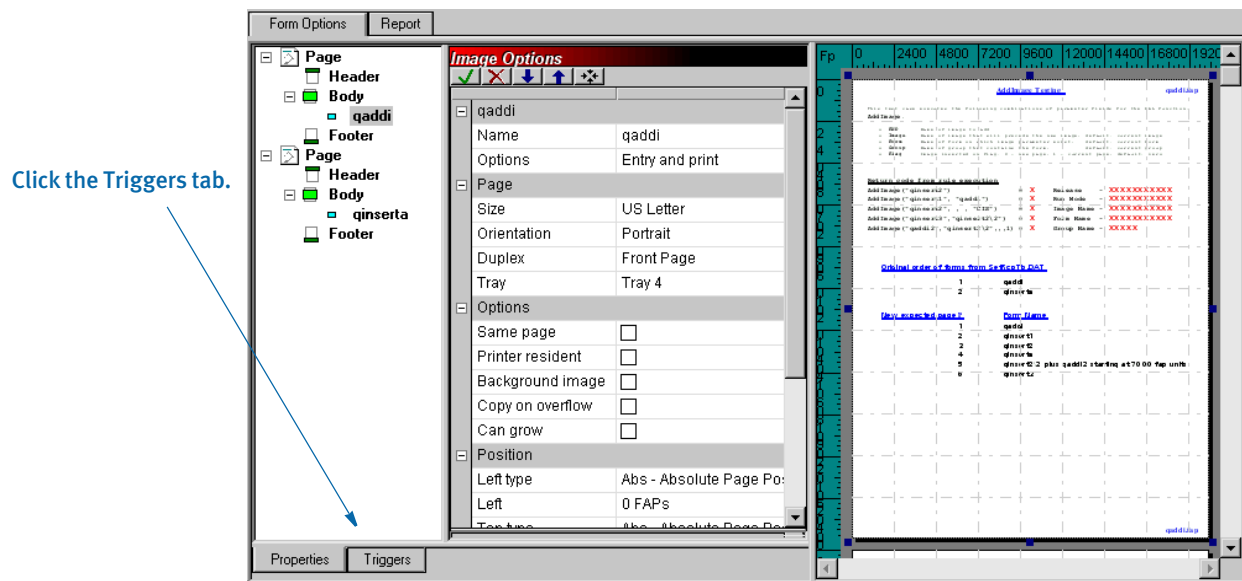
4   On the Triggers tab, select the trigger you want to edit then right click and choose Add.
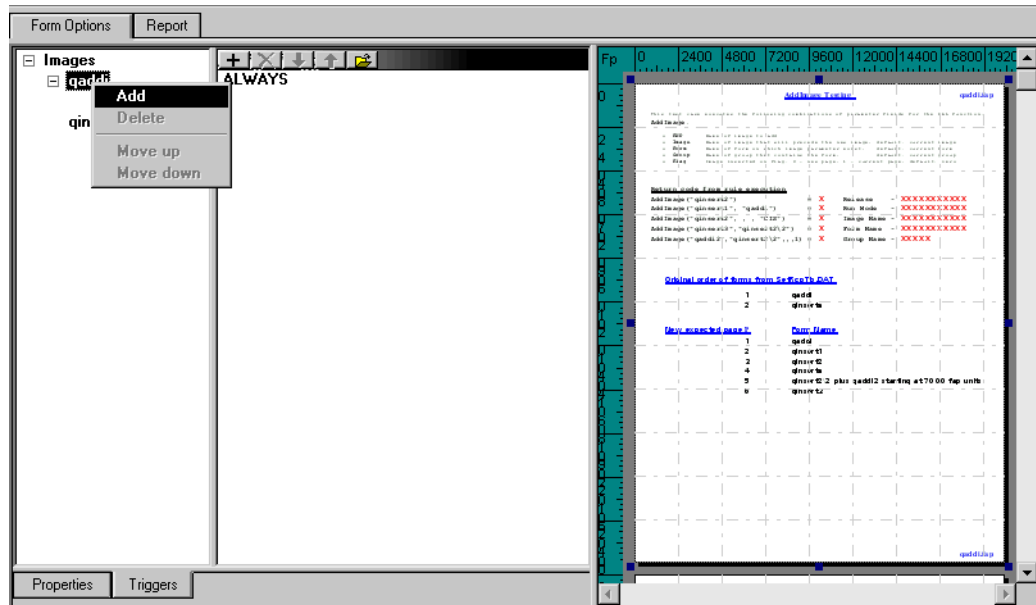
5   The SetRecip table appears, on which you can edit or set up the triggers for the image.
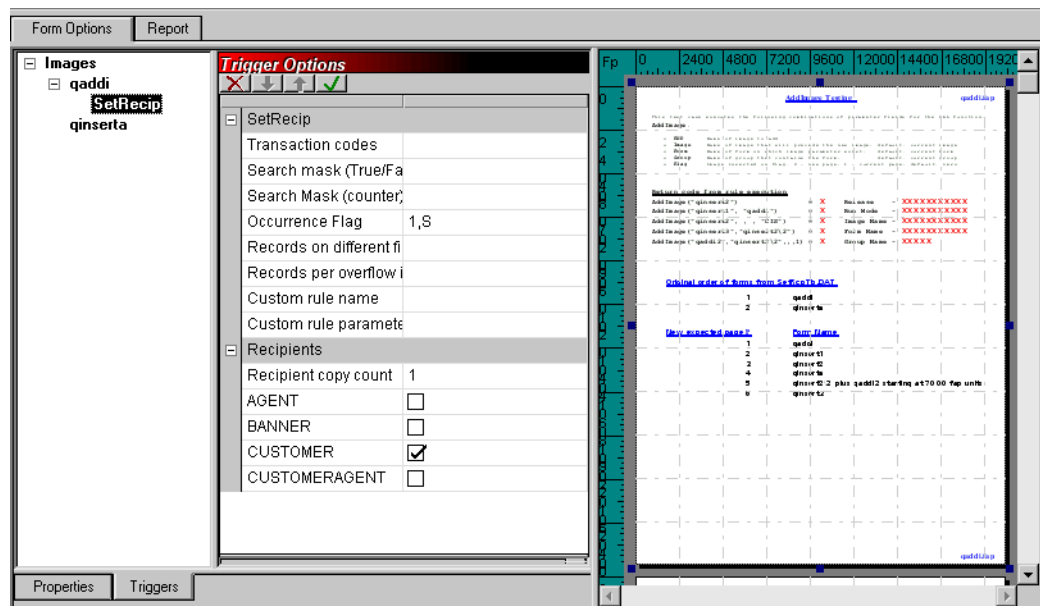
Editing a trigger   If you need to modify a trigger, right click on the trigger and select Edit Trigger File. The SetRecip table appears.

You can also highlight the trigger and click on this icon:

Click here to open the
SetRecip table.
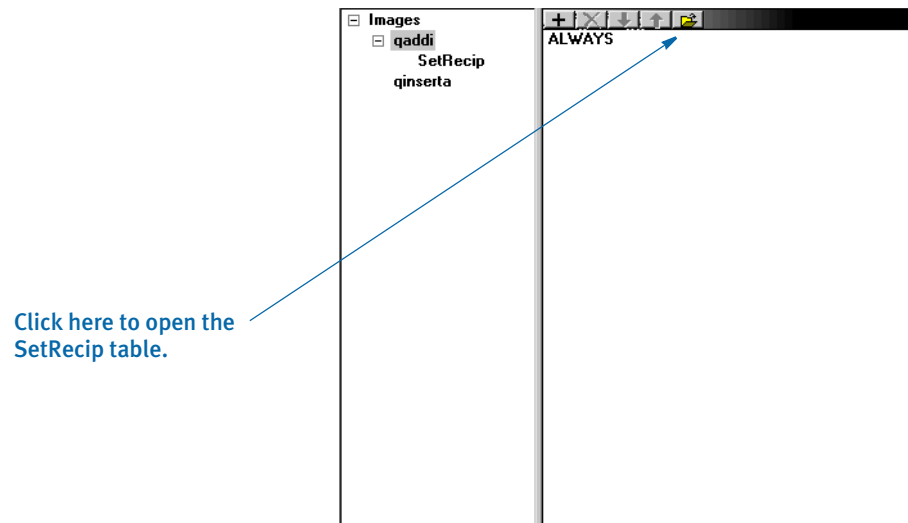
SetRecip Options

The SetRecip Table lets you specify the conditions under which a form or an image will get triggered. Depending upon the requirement, not every field is completed. This table discusses each field:

Field	Description
SetRecip Information	
Transaction Codes <TRANSCDS>	By including one or more Transaction codes in this field, you trigger a particular form (or image) only if the extract file record includes that particular Transaction Code.
<RECIPS>	???
Search Mask (Counter) <MASK1>	Lets you set the criteria to determine whether or not a form (or image) belongs in the form set. The criteria allows the Rules Processor to get specific data from the extract file.
	Adds one form (or image) for every occurrence of the search mask per transaction. The Occurrence Flag must be set to one (1) for the search mask to act as a counter.
Occurrence Flag <OCCURRENCE>	To use the search mask as a counter, the Occurrence Flag (overflow) must be set to one (1). Use with the Search Mask Counter, Records on Different First Image, and Records Per Overflow Image fields. (0=no overflow and 1=overflow)
	Performance issue flags in this field include:
	- Master (M) form level trigger flag
	- Form (F) form level trigger flag
	- Subordinate (S) image level trigger flag
Records on different first image <RECSPER1ST>	Lets you indicate the number of records that appear on the first image before overflowing to a new image.
Records per overflow image <RECSPERIMG>	Lets you specify the number of records matching the search mask that will fit on the specified overflow image. If the value is zero (0) and the Occurrence Flag is set to one (1) with the Search Mask Counter set, the system automatically sets this flag to one (1) to perform the overflow calculations.
Search Mask (True/False) <CONDITIONAL>	Similar to Search Mask (Counter), but only one form (or image) is triggered, regardless of how many occurrences of the condition exists.
Custom Rule Name <FUNCTIONNAME>	Normally used for custom implementation requirements. Only exceptions are RECIPIF and RECIPCONDITION rules.
Custom Rule Parameters <DATA>	Specifies parameters for the custom rule used in the Custom Rule Name field.

Field	Description
Recipient Information	
Form Level Trigger Recipient Copy Count <RECIPCPYCT>	
Image Level Trigger Recipient Copy Count <RECIPCPYCT> Recipient names listed with no check or a check	Defaults the recipient copy of each recipient defined at the form level If recipient was eligible in the form file, it is checked here.

UNDERSTANDING RECIPIENT COUNTS

Although you can specify a recipient count at the form level, technically, recipient counts can only occur at the image level. The count shown at the form level actually represents the first occurrence of a recipient on an image contained within the form.

For instance, suppose you have these images:
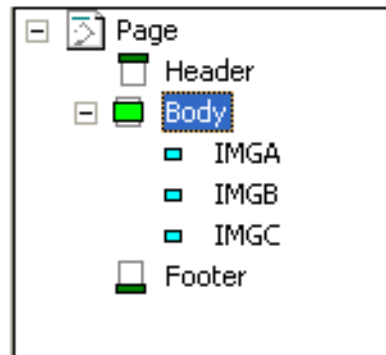
with these possible recipients: Agent, Insured, and Memo, as shown in this table:

IMGA recipients		IMGB recipients		IMGC recipients	
Agent	not eligible	Agent	1 copy	Agent	2 copies
Insured	1 copy	Insured	not eligible	Insured	2 copies
Memo	not eligible	Memo	not eligible	Memo	not eligible

Assuming you have these images defined in this order: IMGA, IMGB, and IMGC on the form, your form-level recipient list will show the following:

Notice that even though IMGC has a different copy count for Agent and Insured, the form shows the count of the *first occurrence* of that recipient. In this case, Insured first occurs on IMGA. Agent first occurs on IMGB and Memo does not occur on any image. Therefore, the form shows one copy for both Insured and Agent and *not eligible* for Memo, since it is not used anywhere.

When you change the recipient count at the form level, the system scans that form's images. The system changes the recipient count for any image which shared the same recipient count value as the form to match the new setting defined at the form level. If the image did not share the same recipient value as the form or if that recipient had a different count, the system does not change the value.

Using the example above, assume you are changing the form level definition of Agent as shown here.

The resulting changes at the image level are shown in this table:

IMGA recipients		IMGB recipients		IMGC recipients	
Agent	not eligible	Agent	3 copies	Agent	2 copies
Insured	1 copy	Insured	not eligible	Insured	2 copies
Memo	not eligible	Memo	not eligible	Memo	not eligible

Notice that only IMGB changed to show Agent getting three copies. IMGA did not define the recipient and therefore did not change. IMGC did define the recipient, but had a different count (2) from what was shown at the form level. Therefore, it did not change either.

A value of *not eligible* means the recipient is not defined for a given image. If no images are using a given recipient, the form level will also show *not eligible* as the current value. In this example, the recipient Memo is not used on any of the images.

When you change a recipient at the form level that was formerly *not eligible* to have another value, you are adding that recipient to all subsequent images with the count you specify. For example, assume you define Memo at the form level as shown below:
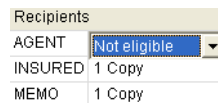
The resulting change to the images is shown in this table:

IMGA recipients		IMGB recipients		IMGC recipients	
Agent	not eligible	Agent	3 copies	Agent	2 copies
Insured	1 copy	Insured	not eligible	Insured	2 copies
Memo	1 copy	Memo	1 copy	Memo	1 copy

Since none of the images previously defined a value for the Memo recipient, all of the images accepted the new value you assigned at the form level. In effect, all of the images had the same prior value for this recipient, as shown at the form level and therefore all matched. At this point, if you decide an image should not define this recipient or should have a different count, you can change that image independent of the others.

There is one exception to the matching rule where only those images that define the same value as shown on the form level will change. This occurs if you should change a recipient to *not eligible* at the form level.

If you set a recipient to *not eligible* at the form level, it does not matter what value an image has for that recipient. All the images will accept and assign *not eligible* to that recipient, if you assign that value at the form level. Consider this example where Agent is changed at the form level:

If you look back at the prior table for the images, you will see that only IMGB and IMGC defined the Agent recipient, but both had different counts. The resulting change by assigning *not eligible* at the form level is show in this table:

IMGA recipients		IMGB recipients		IMGC recipients	
Agent	not eligible	Agent	not eligible	Agent	not eligible
Insured	1 copy	Insured	not eligible	Insured	2 copies
Memo	1 copy	Memo	1 copy	Memo	1 copy

Again, note that assigning *not eligible* at the form level for a recipient is an exception that changes all of the images contained by that form.

Keep in mind...

• The values shown at the form level for each recipient merely represent the first occurrence of that recipient found within the form.

• It is not necessary that all of the images have the same value for each recipient.

• If you change the first occurrence of a given recipient at the image level, the form level value for that recipient changes to reflect the definition of that first instance.

Using Variables to Set Copy Counts

You can use a GVM or DAL variable to set the copy count for images and forms triggered using the method known as DAL triggers. This makes it possible for the trigger script to assign the count based on user data, or in the case of GVM variables, to get a value directly from the data feed.

The key is that the DAL or GVM variable *must* have the same name as the recipient being mapped. For instance, if you are mapping the *INSURED* recipient and want to use a DAL variable, then the DAL variable must be named *INSURED* as well. Or if you want to use a GVM variable to map the copy count to the recipient *AGENT3*, then the GVM variable must be named *AGENT3*.

If the requested variable type cannot be found with the correct name, a warning message appears and the count is set to one (1).

To use a GVM variable to assign the count, select *GVM variable* on triggers tab as the copy count. Select *DAL variable* if you want to assign the count from a DAL variable. Here is an example:
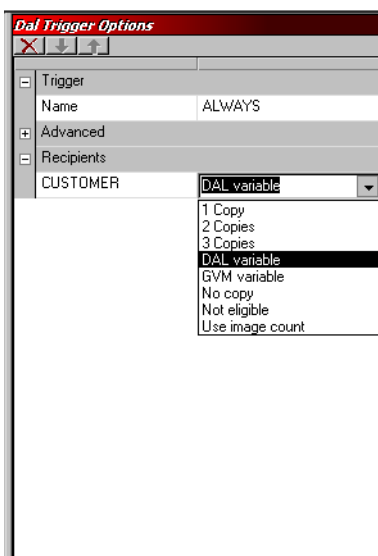
You must establish the values assigned to the recipient named GVM and/or DAL variables referenced by the triggers prior to their use. You can do this in the trigger script or at any point before the trigger executes. Subsequent values assigned to the recipient named GVM or DAL variables do not affect forms and/or images that have already been triggered and assigned a value.

Working with Images

Studio makes it easy to create and maintain the images that comprise your forms.

An image is a group of text or graphics or both which make up all or part of a form. You create images with the Images option. Each image is stored in a separate file, so you can reuse images in multiple forms and form sets.

For example, a three-page form with text and graphics printed on both sides of each page, could contain a total of six images. Two examples of images include an insurance policy declaration page and a 1040 Federal tax return form.

This topic discusses:

OVERVIEW

Images can consist of both static and non-static objects. When saved, an image is stored with the extension of *FAP*. Each form is comprised of a minimum of one FAP file. Typically, however, a single form consists of one or more images. Since multiple forms and images make up a form set, you can view and navigate through each form and image individually.

Forms consist of one or more images

Form 1

Image C
Image B
Image A

Form 2

Image F
Image E
Image D

A form may consist of multiple images, and consequently you can view the varying images within a form by displaying different pages of the form.

An image can contain varying sections on one page. For example, an automobile insurance application form could consist of three images. The first image or page may contain three separate *sections*: a section for listing the automobiles you want to insure, a section for recording household driver information, and a section for selecting the type and amount of coverage you want for each vehicle. Using the page display options, you can zero in on and view the beginning of a particular section of the insurance application image.

Images consist of one or more sections

Form 1

Image C

Image B

Image A

Section 1

Section 2

Section 3

Objects are the individual items which comprise your image. Examples of objects are boxes, barcodes, lines, graphics, and text. All objects have unique attributes within the image. Attributes include items such as position, size, font type, and color.

USING THE SCREEN

Studio places all the tools you need for professional document creation at your fingertips. The screen is your document work area. It is important to become familiar with the general screen layout and parts of the screen. Understanding the screen layout will help you work quickly and efficiently.

The first window that appears when working with images is shown here.

Title bar

Menu bar

Tool bar

Workspace

Status bar

Object tree

Object options

Work area

Item	Description
Title bar	The title bar displays the name of the workspace you have open, followed by Documaker Studio, and then the name of the image you have open.
Menu bar	The menu bar provides the list of available pull-down menus.
Tool bar	The tool bar contains a row of icons that provide quick access to common options.
Status bar	The Status bar gives the coordinates of the mouse pointer in the work area. The mode of operation, such as ready or edit, also appears here.
Workspace	The workspace lets you quickly access different items. It also shows which specific resources that are checked out (green check mark), which resources are checked out by another user that you would only have read-only access to (red check mark), and which resources are open in read-only mode or have never been checked into the library.

Item	Description
Object tree	Shows the objects, by object type, that comprise the image.
Object options	Depending upon which object is selected in the work area, specific object properties will be shown. If no object is selected, the image properties appear. This area is grayed out until you begin working in the work area.
Work area	This is where you create the image. Objects are placed in this area as the image is built.

The object tree gives you a list of all objects on the image on which you are currently working. You can access these objects from this area, but you cannot add objects from here.

NOTE: A plus sign by the object type denotes that there are objects of that type existing on the image.
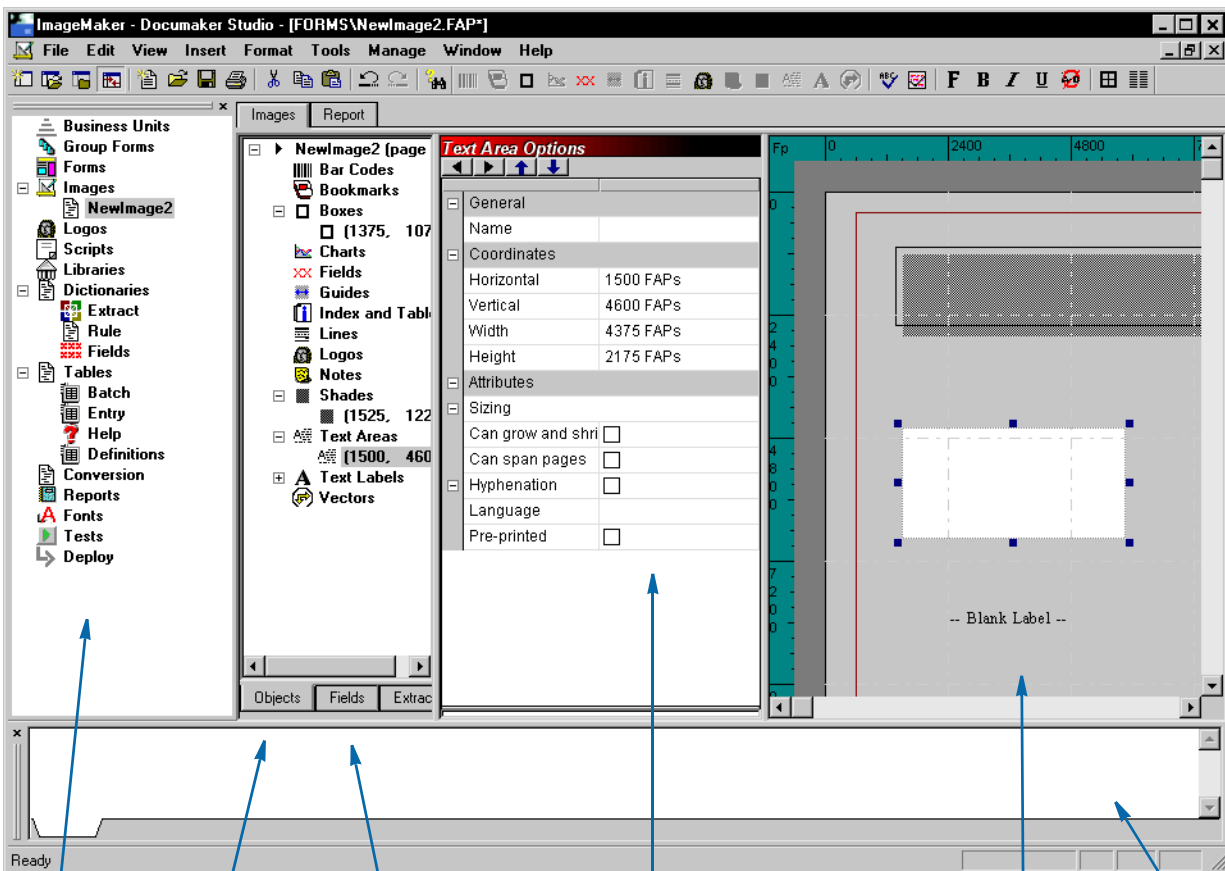
Object tree   Objects tab   Fields tab   This is where the object's options appear   Work area   Status bar

Area	Description
Object tree	The Object tree gives you a list of all objects on the image on which you are currently working. You can access these objects from this area, but you cannot add objects from here.
Objects tab	The Objects tab shows all types of objects, along with the specific objects under each type. Within type, they are listed in the order in which they were created.
Fields tab	The Fields tab shows all fields in the field database (FDB), broken into the group (numeric or alpha) under which it falls.
Options area	The options area gives you property information for the image or for individual objects you can create
Work area	The work area is the area where you create the image. You can enlarge this area by closing or minimizing some of the other areas on the screen. You can also customize the ruler and grid.
Status bar	The status bar gives you useful information while you are working with images.

USING THE MENU BAR

This section introduces you to the pull-down menus which include additional options or are only available when you are working with images. A summary of each of these menu appears below. The menus are listed in the order they appear on the menu bar.

NOTE: For information on the standard menus and menu options which are always available, see Using System Menus on page 14.

Menu	Description
Edit	The Edit menu provides options you use as you create and modify images and the objects that make up images. You copy, cut, delete, and paste individual objects, or select all objects for editing. You can also delete pages and undo changes from the Edit menu.
View	The View menu controls the appearance of your window as you create or edit images.
Insert	The Insert menu lets you create objects and place them in your image. You can also insert objects by clicking on the object icon on the tool bar.
Format	The Format menu provides options that let you format objects and text and set up the specific formatting properties.
Tools	The Tools menu controls features used to check spelling and grammar on images and lets you enter the data entry check option. These types of features are used most often when an image is complete or near completion.

Using the Edit Menu

The Edit menu controls modifying images and objects within images. You can copy, cut, delete, and paste individual objects or select all the objects for editing. Edit options also let you find and replace text, make global font changes, and undo certain editing functions.

When you select Edit when working with images, this menu appears:

Undo	Ctrl+Z
Redo	Ctrl+Y
Cut	Ctrl+X
Copy	Ctrl+C
Paste	Ctrl+V
Delete	Ctrl+D
Duplicate…	
Select	▶
Color…	
Font…	
Bold	Ctrl+B
Italic	Ctrl+I
Underline	Ctrl+U
Strike-out	
Do not Hyphenate	
Do not Break	
Language…	
Find…	Ctrl+F
Replace…	Ctrl+H

The grayed-out options are standard Edit menu options.

Option	Description	On right click?
Undo	Cancels or reverses your last action or choice.	Yes
Redo	Reverses your last undo.	Yes
Cut	Removes a section of an image and places it on the clipboard.	Yes
Copy	Duplicates a selected section of an image and places it on the clipboard.	Yes
Paste	Places a section stored on the clipboard into an open image.	Yes
Delete	Deletes the selected object.	Yes
Duplicate	Creates multiple copies of an object directly adjacent to the selected object.	Yes
Select		
Character	Selects a character.	
Word	Selects a word.	
Line	Selects an entire line.	
Paragraph	Selects a paragraph.	

Option	Description	On right click?
Column	Selects a column.	
All	Selects everything.	
Deselect	Deselects everything selected	
Color	Change the color of the selected object. Highlight the object, then choose this option.	
Font	Select or change fonts.	
Bold	Bold selected text.	
Underline	Underline selected text.	
Strike-out	Strike-out selected text	
Do not Hyphenate	Prevents hyphenation of text.	
Do not Break	Prevents paragraphs, text labels, and embedded variable fields within text areas, and multi-line variable fields, from being broken by page breaks.	
Language	Select or change the language.	
Find	Locate words, phrases, or character strings.	
Replace	Locate words, phrases, or character strings and, if necessary, replace them.	

Using the View Menu

The View menu controls the appearance of your screen as you work on an image. You toggle on and toggle off the display of various features through the use of items on the View menu.

When you select View, this menu appears:
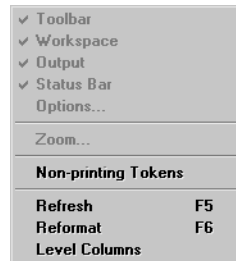
The grayed-out options are standard View menu options.

Option	Description	On right click?
Toolbar	Toggles on/off the Toolbar	
Workspace	Toggles on/off the Workspace area	
Output	Toggles on/off the Output area	
Status Bar	Toggles on/off the Status bar	
Zoom...	Lets you zoom in or out.	Yes
Non-printing Tokens	Display or hide formatting symbols such as paragraph markers and tab markers.	
Refresh	Lets you update and redisplay the image.	
Reformat	Reformat the text. Use after you have made significant formatting changes	
Level Columns	Balance the text in columns.	

Using the Insert Menu

The Insert menu controls the creation and placement of objects in your image. Boxes, barcodes, lines, and other types of objects are drawn and positioned in your image. You can also import a page, whether it is blank or full of text. You can select to create an object from the Insert pull-down menu or you select to create an object from the tool bar. Any selection from the Insert menu or the tool bar activates the Image Editor create mode.

When you select Insert, this menu appears:

Option	Description
Autocreate	Lets you create objects repeatedly without entering the object's options.
Barcode	Activates barcode create mode.
Bookmark	Used to add bookmarks to FAP files. A bookmark defines the text you want to print in the table of contents. A level number (TOC1, TOC2, and so on) can be used to determine the formatting to use. You specify whether the bookmark is to be used by a table of contents, table of figures, or index.
Box	Activates box create mode.
Break	Text area feature – allows for inserting a break into a text area
Chart	Activates chart create mode.
Field	Activates variable field mode.
File	Text area feature – allows for inserting a file into a text area
Guide	Activates guide box create mode. Used for alignment of objects.

Option	Description
Index and Tables	Used to add an index marker or a table of figures. Only applicable for Documaker Workstation.
Line	Activates line create mode.
Logo	Activates logo insert mode.
Note	Activates note create mode.
Page	Activates page insertion screen.
Shade	Activates shading or pattern area create mode.
Text Area	Activates text area create mode.
Text Area Special	Activates text area draw to insert from a file or the clipboard.
Text Label	Activates text label create mode.
Vector	Activates vector create mode.

Using the Format Menu

The Format menu controls formatting functions associated with the image and objects in the image. You can view or change the properties for the page, image, or individual objects from this menu.

When you select Format, this menu appears:

Align...	
Spacing...	
Convert to Text Area	
Convert to Text Label	
Split Text	
Paragraph...	
Tab Stops...	Ctrl+T
Border...	
Shade...	
Bullets and Numbering...	
Columns...	
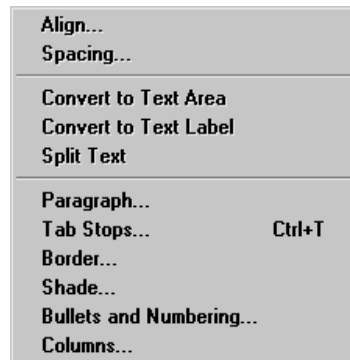
Option	Description
Align	Aligns according to image margins or a specific object.
Spacing	Places selected objects at specified intervals either vertically or horizontally in relation to each other.
Convert to Text Area	Combines selected text labels or text areas into a single text area.
Convert to Text Label	Combines selected text labels into a single text label.
Split Text	Splits a single text area into individual text labels.
Paragraph	Text area feature – allows for formatting of paragraph
Tab Stops	Text area feature – allows for formatting of tab stops
Border	Text area feature – allows for formatting of border
Shade	Text area feature – allows for formatting of shading
Bullets and Numbering	Text area feature – allows for formatting of bullets and numbering used in a text area
Columns	Text area feature – allows for formatting of columns

Using the Tools Menu

The Tools menu controls features often used when your image is complete or near completion. Spell check and Data Entry check are some of the features available.

When you select Tools, this menu appears:
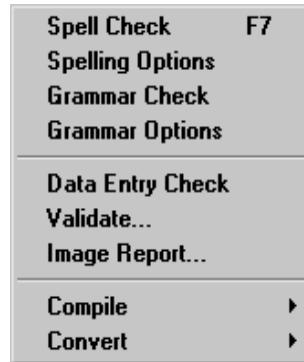
Option	Description
Spell Check	Turns on the spell check feature. Lets you check the spelling of all text in your current image.
Spelling Options	Lets you specify spell check options.
Grammar Check	Gives you the option as to whether you wish to check the grammar on the entire document or only items that you have selected.
Grammar Options	Let you pick from the grammar checking settings that you want to use.
Data Entry Check	Activates the image check feature. Lets you test the data entry and navigation rules you assigned to variable fields.
Validate	Lets you validate your image.
Image Report	Generate a report about the current image. You can view and print the report.
Compile	Lets you compile your image file for a particular printer. Compile creates an image file for a PCL, AFP, PostScript or Metacode printer.
Convert	Lets you convert a FAP file into a normalized Metacode or AFP file.

USING THE RIGHT CLICK MENUS

When working with image properties, you can right click to see the following menu:
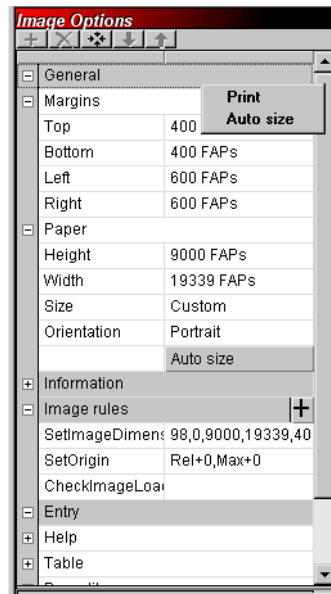
Option	Description
Print	Use to print the image.
Auto size	Use to automatically size the image.

When working with an image, you can right click to see the following menu.
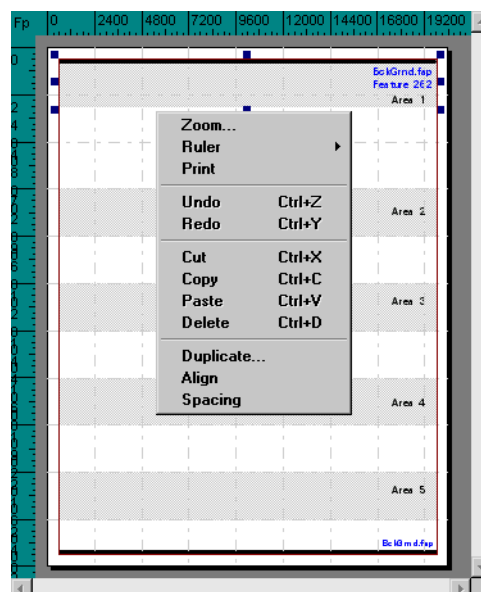
Option	Description
Zoom	Lets you see a larger or smaller version of the image.
Ruler	
Horizontal	Select to display the horizontal ruler. Select again to remove the ruler.
Vertical	Select to display the vertical ruler. Select again to remove the ruler.
FAPs	Select to use FAP units (2400 per inch) on the ruler.
Inches	Select to use inches on the ruler.
Centimeters	Select to use centimeters on the ruler.
Picas	Select to use picas on the ruler.
Points	Select to use points on the ruler.
Print	Prints a copy of the image.
Undo	Cancel or reverse your last action or choice.
Redo	Repeat the most recent change.
Cut	Saves the changes you have made
Copy	Removes a section of an image and places it on the clipboard.
Paste	Duplicates a selected section of an image and places it on the clipboard.
Delete	Places a section stored on the clipboard into an open image.
Duplicate	Deletes the selected object.
Align	Aligns according to image margins or a specific object.
Spacing	Places selected objects at specified intervals either vertically or horizontally in relation to each other.

USING THE TOOL BAR

The tool bar is useful because it serves as a quicker route for performing some functions that may be listed on a drop down menu. Here is an example of the tool bar shown when you are working with images:

Standard tool bar icons Shown below are the tool bar icons that are always available. The icons are listed as they appear, from left to right.

Icon	Name	Description
	New Workspace	Creates a workspace.
	Open Workspace	Opens a workspace.
	Close Workspace	Closes an open workspace.
	Toggle Workspace	Toggles between displaying and hiding the workspace.
	New	Creates a file.
	Open	Opens a file.
	Save	Saves the open file.
	Print	Prints the current object.
	Cut	Removes an object and places it on the clipboard.
	Copy	Copies an object and places it on the clipboard.
	Paste	Places an object from clipboard onto the current file.

Icon	Name	Description
	Undo	Reverses your last action
	Redo	Reverses last undo.
	Help	Displays the Help window

Image tool bar icons   Shown below are the tool bar icons that only appear when you are working with images.

Icon	Name	Description
	Insert barcode	Lets you insert a barcode
	Insert bookmark	Lets you insert a bookmark
	Insert box	Lets you insert a box
	Insert chart	Lets you insert a chart
	Insert field	Lets you insert a variable field
	Insert guide*	Lets you insert a guide box
	Insert index or table	Lets you insert an index or table
	Insert line	Lets you insert a line
	Insert logo	Lets you insert a logo (graphic file)
	Insert note*	Lets you insert a note

Icon	Name	Description
	Insert shade	Lets you insert a shaded area
	Insert text area	Lets you insert a text area
	Insert text label	Lets you insert a text label
	Insert vector	Lets you add a vector drawing
	Spell check*	Lets you check spelling
	Data entry check*	Lets you run a data entry check
F	Fonts	Opens the font cross-reference file.
B	Bold	Changes the font for the selected text to bold.
I	Italic	Changes the font for the selected text to italic.
U	Underline	Underlines the selected text.
	Do not hyphenate	Tells Studio not to hyphenate the selected text.
	Border	Opens the Paragraph Properties window so you can add a border.
	Columns	Opens the Columns Properties window so you can define columns.

NOTE: An asterisk (*) denotes that icon is only available when you are composing forms. A note, however may be used during entry by including the following option:

```
< Control >
```

```
ShowNotes = Yes
```

The default is No.

All image objects have default attributes. You can override these attributes by modifying the values assigned to the options in the default value can be overridden. The default values/attributes for the object are established in the Options by Group Section of the INI file.

CREATING AN IMAGE

You can create an image several ways, such as

- From the toolbar

- Using the File, New option

Studio then opens a new, untitled image:
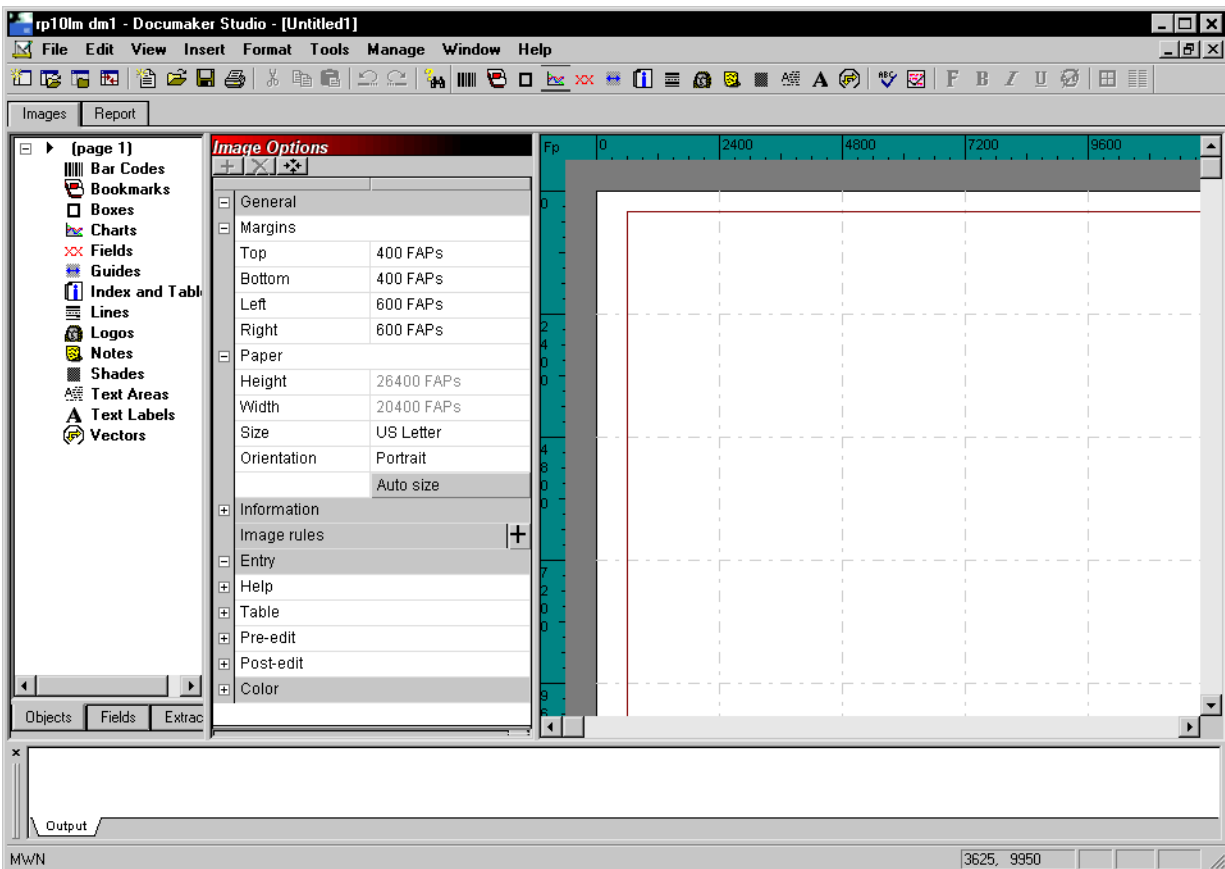
Modify the image options as necessary and begin adding the objects that will comprise your image. See Adding Objects on page 135 for more information.

OPENING AN
IMAGE

Follow these steps to select and open an image:

1   Double-click Images. The Open File window appears. You can also right click on Images and choose Open or Check out.
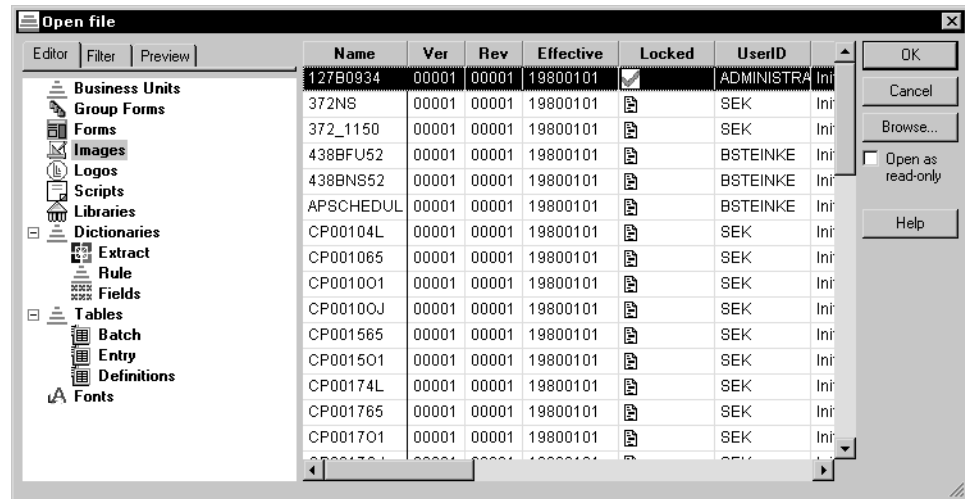
2   Highlight the image you want to edit or view and click Ok. The Image View window appears.

NOTE: If you check Open as read only and then click Ok, the file will only be available for viewing and someone else at another workstation would still be able to check it out.
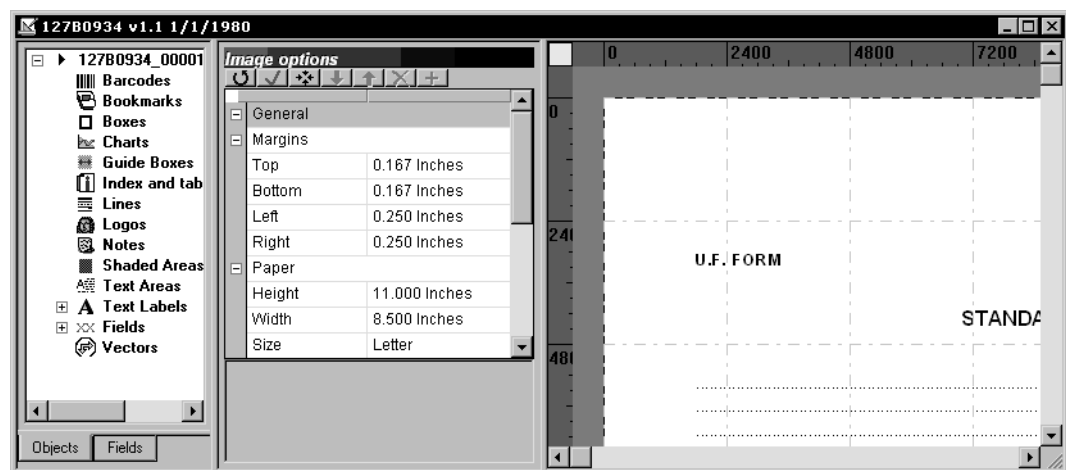
The Image View is similar to the Form View in that it shows you a representation of the image and provides a property panel when attributes about the various image objects can be shown.

For example, if you click on a field, the properties are shown for that field. If you click on a box or static text label, the property panel changes to show the attributes for those objects. Here is an example of field properties:
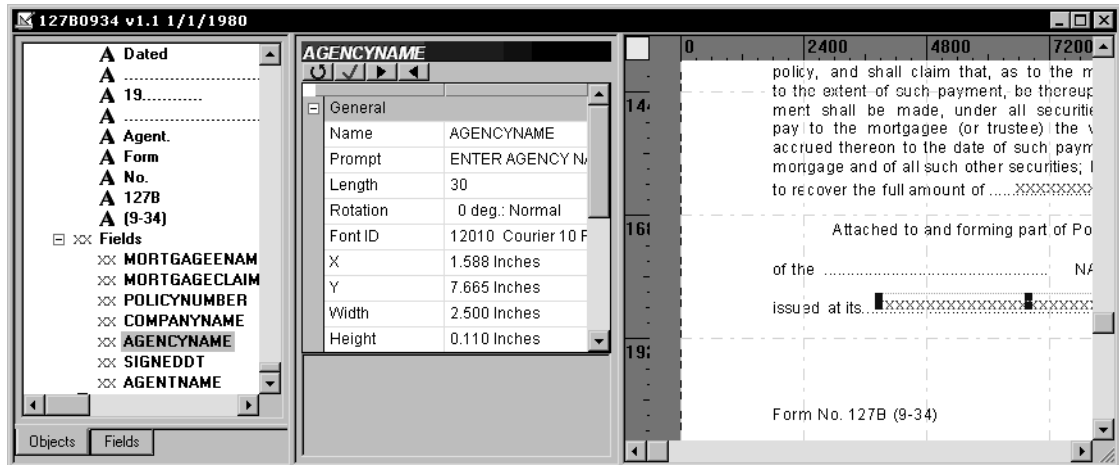
Here is an example of how you edit box properties:
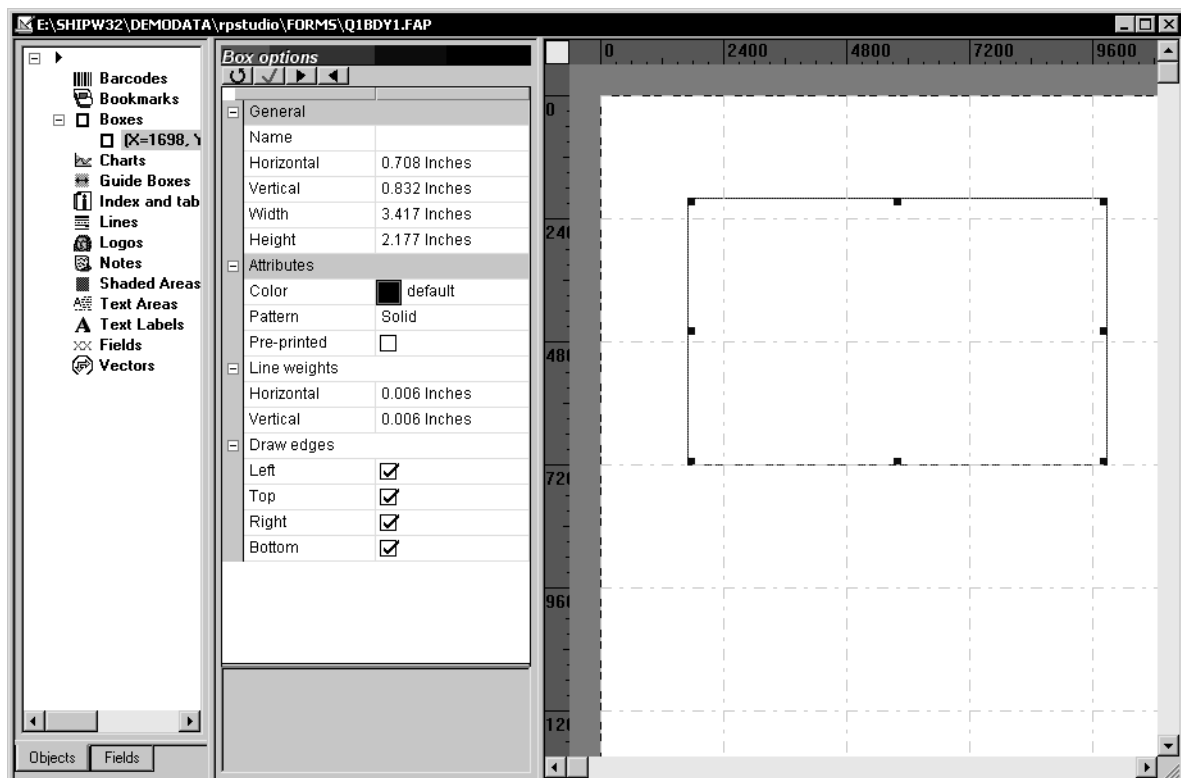
Here is an example of how you choose a font for a static text label:

Click here to choose a font. The list of fonts is defined in your FXR file.
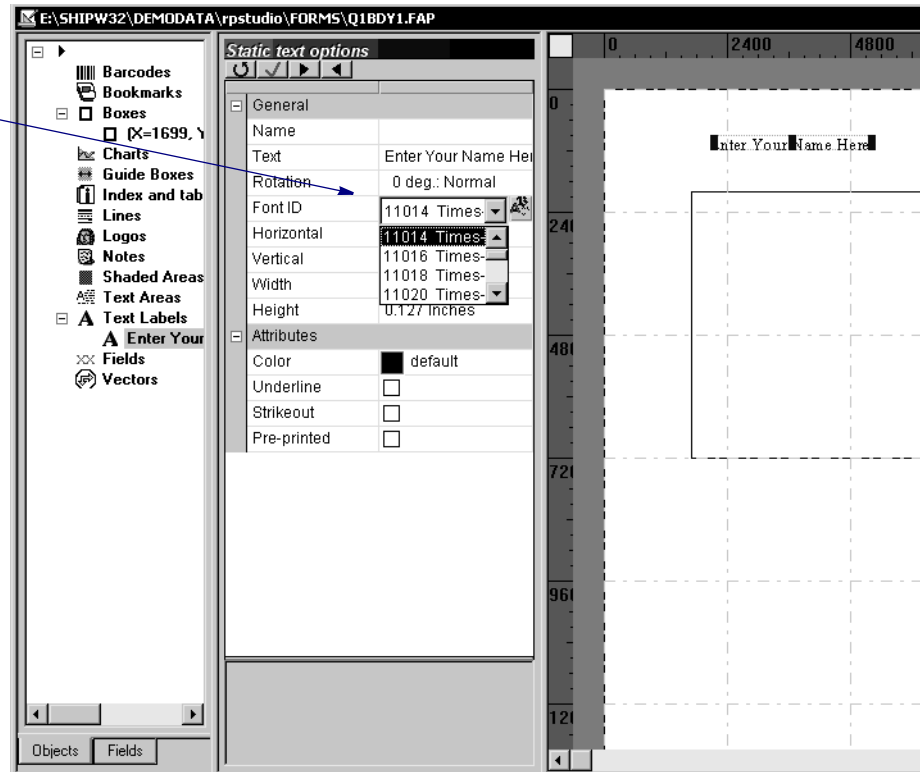
The property panel also shows you image properties, like DDT settings and other image level information.

Creating new fields and other objects on your image is as simple as clicking on the menu or toolbar to select what type of item you want to create and then using the mouse to designate the location on the image.

When you create a new object, the property panel changes to reflect the current settings for your new object and lets you modify those settings to complete your definition.

3   Once you have completed the changes to an image, you can save your work and check the image back into the library for other users to access.

ADDING OBJECTS

Adding objects to an image is easy in Studio. You simply open an image or create a new image, then follow the steps below:
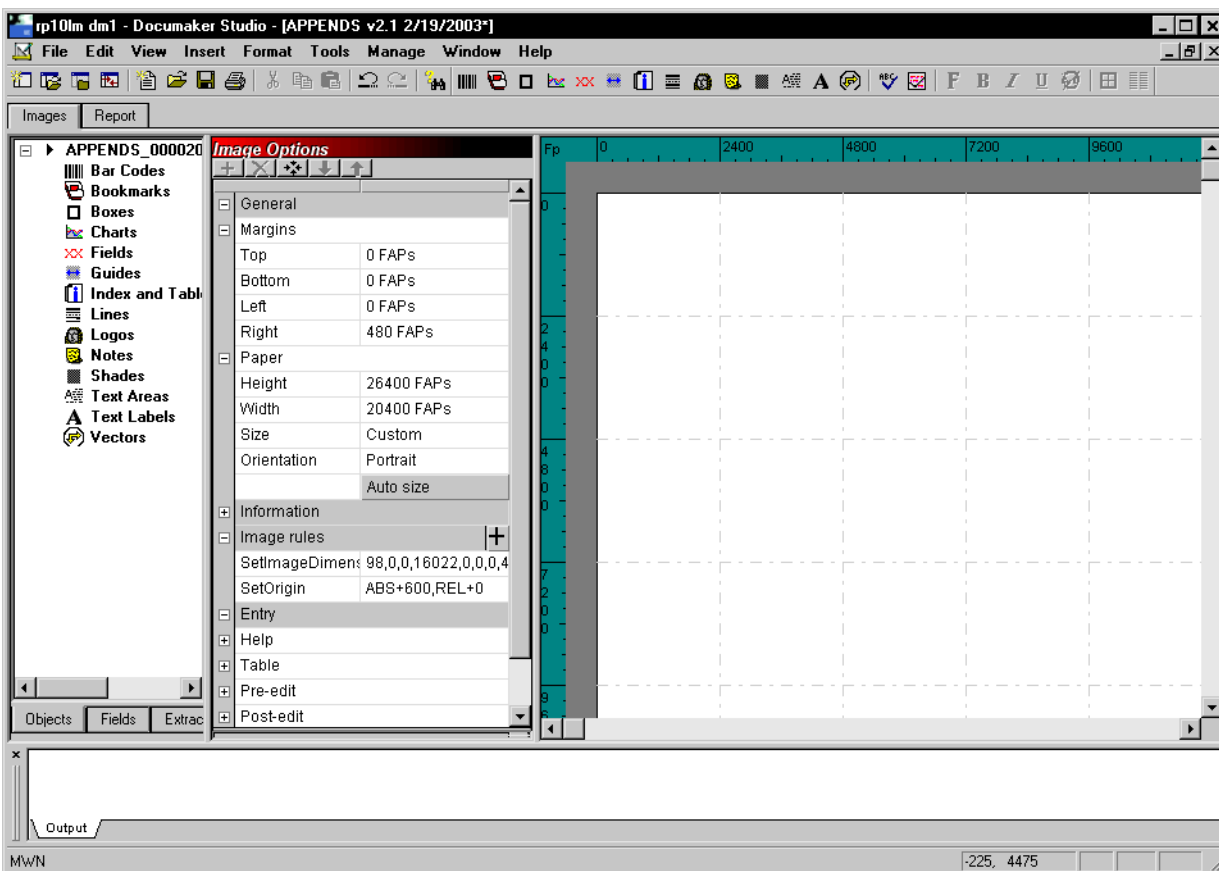
You can select the type of object you want to add two ways:

- From the Insert menu
- From the toolbar

From the Insert menu Choose the type of object you want to add and draw it on your image. Then move it where you want it and adjust the properties as necessary.

From the toolbar Use these icons:

NOTE: These tool bar icons only appear when you are working with images.

To	Click
Insert a barcode	
Insert a bookmark	
Insert a box	
Insert a chart	
Insert a field	
Insert a guide*	
Insert an index or table	
Insert a line	
Insert a logo	
Insert a note*	
Insert a shaded area	
Insert a text area	
Insert a text label	
Insert a vector drawing	

Once you select the object and position it in your image, use the properties to customize the object to meet your needs. Here is an example of the properties for a variable field:

Working with Logos

Logos are bitmap objects you can place on an image. Studio does not create logos, but it does let you manipulate them. Logos are created in graphics applications such as Microsoft Paint or by scanning artwork.

Click Logos to work with logos.

This chapter discusses these topics:

USING THE SCREEN

Studio places all the tools you to work with graphics files, called logos, at your fingertips. The screen is your logo work area. It is important to become familiar with the general screen layout and parts of the screen. Understanding the screen layout will help you work quickly and efficiently.

The first window that appears when working with logos is shown here.
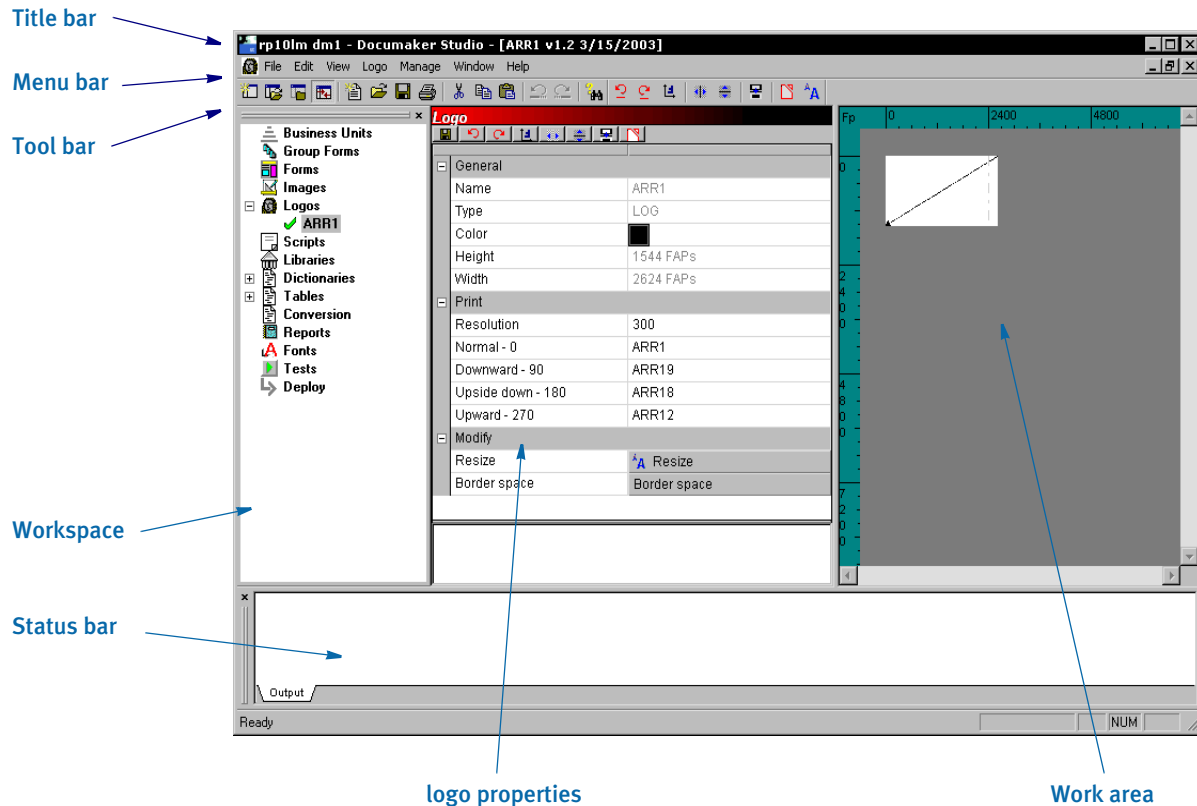
Title bar

Menu bar

Tool bar

Workspace

Status bar

logo properties

Work area

Item	Description
Title bar	The title bar displays the name of the workspace you have open, followed by Documaker Studio, and then the name of the logo you have open.
Menu bar	The menu bar provides the list of available pull-down menus.
Tool bar	The tool bar contains a row of icons that provide quick access to common options.
Status bar	The Status bar gives the coordinates of the mouse pointer in the work area. The mode of operation, such as ready or edit, also appears here.

Item	Description
Workspace	The workspace lets you quickly access different items. It also shows which specific resources that are checked out (green check mark), which resources are checked out by another user that you would only have read-only access to (red check mark), and which resources are open in read-only mode or have never been checked into the library.
logo properties	Here Studio shows you the properties for the logo you are working on.
Work area	This is where you work with the logo.

USING THE MENU BAR

This section introduces you to the pull-down menus which include additional options or are only available when you are working with logos.

NOTE: For information on the standard menus and menu options which are always available, see Using System Menus on page 14.

Menu	Description
Logo	The Logo menu provides you with tools to manipulate a logo.

Using the Logo Menu

The Logo menu provides you with tools to manipulate a logo. You can rotate, mirror, reverse, convert to black and white, resize, and crop a logo. When you select Logo, this menu appears:

```
Rotate            ▶
Mirror            ▶
Reverse
Convert to BW
Resize...
Border space...
Clip
```
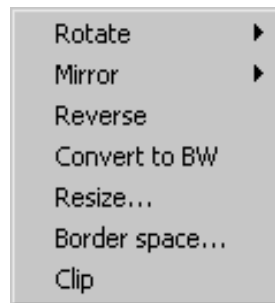
Option	Description	On right click?
Rotate		Yes
Left	Rotates the graphic 90 degrees in a clockwise motion.	Yes
Right	Rotates the graphic 90 degrees in a counter-clockwise motion.	Yes

Option	Description	On right click?
Flip	Rotates the graphic 180 degrees.	Yes
Mirror		Yes
Horizontal	Lets you create a mirror image of the graphic by flipping it horizontally.	Yes
Vertical	Lets you create a mirror image of the graphic by flipping it vertically.	Yes
Reverse	Creates a negative image of the graphic file, where dark becomes light and vice versa.	Yes
Convert to BW	Converts a color graphic into a black and white graphic. Reducing the number of colors typically reduces the size of the graphic.	Yes
Resize	Lets you change the size of the graphic, either by entering a new height and width or by entering a percentage. For instance, if you enter 200%, Studio makes the graphic twice as big. If you enter a new height and width, make your entry in FAP units (2400 per inch).	Yes
Border Space	Lets you specify the size of the border that surrounds the graphic. You enter the size of the top, bottom, left, and right borders in FAP units (2400 per inch).	Yes
Clip	Lets you crop a graphic. Using the Clip option, you draw a box around the part of the graphic you want to keep. Studio deletes everything outside the box.	Yes

USING THE RIGHT-CLICK MENU

When working with logo properties, you can right click to see the following menu.
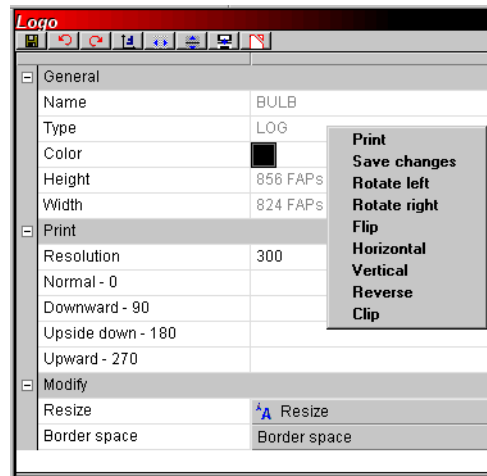
Option	Description
Print	Prints a copy of the properties for this logo.
Save changes	Saves the changes you have made
Rotate left	Rotates the graphic 90 degrees to the left.
Rotate right	Rotates the graphic 90 degrees to the right.
Flip	Rotates the graphic 180 degrees.
Horizontal	Lets you create a mirror image of the graphic by flipping it horizontally.
Vertical	Lets you create a mirror image of the graphic by flipping it vertically.
Reverse	Creates a negative image of the graphic file, where dark becomes light and vice versa.
Clip	Lets you crop a graphic. Using the Clip option, you draw a box around the part of the graphic you want to keep. Studio deletes everything outside the box.

When working with the actual logo, you can right click to see the following menu.
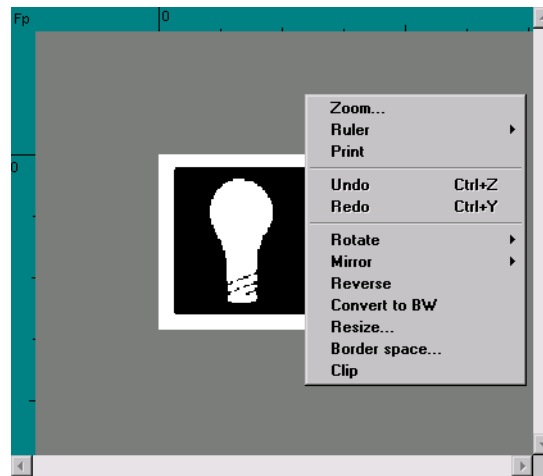
Option	Description
Zoom	Lets you see a larger or smaller version of the logo.
Ruler	
Horizontal	Select to display the horizontal ruler. Select again to remove the ruler.
Vertical	Select to display the vertical ruler. Select again to remove the ruler.
FAPs	Select to use FAP units (2400 per inch) on the ruler.
Inches	Select to use inches on the ruler.
Centimeters	Select to use centimeters on the ruler.
Picas	Select to use picas on the ruler.
Points	Select to use points on the ruler.
Print	Prints a copy of the logo.
Undo	Cancel or reverse your last action or choice.
Redo	Repeat the most recent change.
Rotate	
Left	Rotates the graphic 90 degrees in a clockwise motion.
Right	Rotates the graphic 90 degrees in a counter-clockwise motion.
Flip	Rotates the graphic 180 degrees.
Mirror	

Option	Description
Horizontal	Lets you create a mirror image of the graphic by flipping it horizontally.
Vertical	Lets you create a mirror image of the graphic by flipping it vertically.
Reverse	Creates a negative image of the graphic file, where dark becomes light and vice versa.
Convert to BW	Converts a color graphic into a black and white graphic. Reducing the number of colors typically reduces the size of the graphic.
Resize	Lets you change the size of the graphic, either by entering a new height and width or by entering a percentage. For instance, if you enter 200%, Studio makes the graphic twice as big. If you enter a new height and width, make your entry in FAP units (2400 per inch).
Border space	Lets you specify the size of the border that surrounds the graphic. You enter the size of the top, bottom, left, and right borders in FAP units (2400 per inch).
Clip	Lets you crop a graphic. Using the Clip option, you draw a box around the part of the graphic you want to keep. Studio deletes everything outside the box.

USING THE TOOL BAR

The tool bar provides a quicker way to select options that may be listed on a drop down menu. Here is an example of the tool bar shown when you are working with logos:

Standard tool bar icons

Shown below are the tool bar icons that are always available. The icons are listed as they appear, from left to right.

Table 3:

Icon	Name	Description
	New Workspace	Creates a workspace.
	Open Workspace	Opens a workspace.
	Close Workspace	Closes an open workspace.
	Toggle Workspace	Toggles between displaying and hiding the workspace.
	New	Creates a file.
	Open	Opens a file.
	Save	Saves the open file.
	Print	Prints the current object.
	Cut	Removes an object and places it on the clipboard.
	Copy	Copies an object and places it on the clipboard.
	Paste	Places an object from clipboard onto the current file.

Table 3:

Icon	Name	Description
	Undo	Reverses your last action
	Redo	Reverses last undo.
	Help	Displays the Help window

Logo tool bar icons   Shown below are the tool bar icons that appear when you are working with logos.
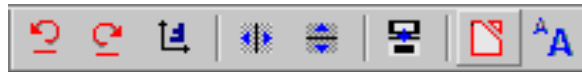
Table 4:

Icon	Name	Description
	Rotate left	Rotates the logo 90 degrees to the left.
	Rotate right	Rotates the logo 90 degrees to the right.
	Flip	Rotates the logo 180 degrees.
	Mirror horizontally	Lets you create a mirror image of the graphic by flipping it horizontally.
	Mirror vertically	Lets you create a mirror image of the graphic by flipping it vertically.
	Reverse	Creates a negative image of the graphic file, where dark becomes light and vice versa.
	Clip	Lets you crop a graphic. Using the Clip option, you draw a box around the part of the graphic you want to keep. Studio deletes everything outside the box.
	Resize	Lets you change the size of the logo.

MANAGING LOGOS

Once you create a logo, you can modify it using this option. This gives you an easy way to resize, reverse, rotate, and manipulate the logo to fit your needs.

When you choose Logos, here is an example of the window that appears:
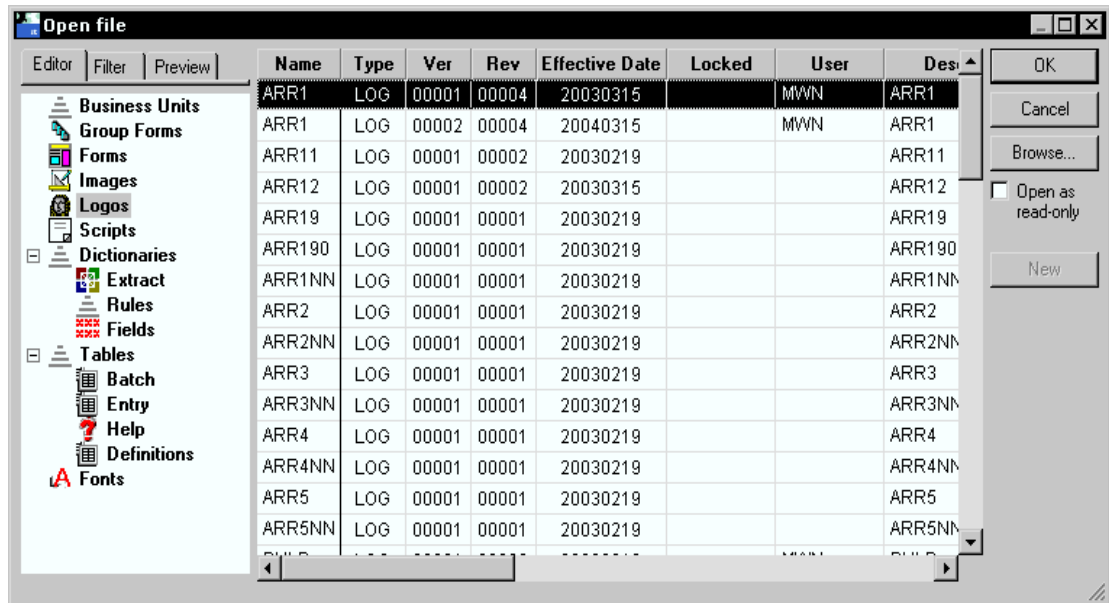
You can open the following types of files:

- Logo files (*.LOG)

- Bitmap files (*.BMP)

- Xerox font files (*.FNT)

- Xerox font data files (*.FNT)

- Xerox image files (*.IMG)

- Xerox logo files (LGO)

- PCX files (*.PCX)

- TIFF (Tagged Image File Format) files (*.TIF)

- Printer overlay files (*.OVL)

- AFP page segment files (*.SEG)

- JPEG (Joint Photographic Experts Group) files (*.JPG)

- IBM MMR IOCA (Image Object Content Architecture) files (*.ICA)

- Portable Network Graphics files (*.PNG)

- Windows Meta files (*.WMF)

NOTE: Not all PNG formats are supported. Specifically, PNG supports a transparency attribute that is not supported. Studio only supports opaque (non-transparent) bitmaps.

PNG also supports a variety of color bit patterns, such as - 1, 2, 4, 8, 16, 24, and 32 bits per pixel. Studio does not support all of these formats, but a 3rd-party PNG library included with Studio will convert the bitmaps into a pixel format the system does support.

Studio converts PNG files into bitmaps when printing. It handles monochrome (1 bit), 16-color (4-bit), 256-color (8-bit), and full color (24-bit) bitmaps. However, not all printers can support these, so make sure you use bitmaps appropriate for your printer.

PDF only supports 1-bit and 24-bit bitmaps. So, some types of PNG files may look different when you create PDF files.

Positioning JPEG objects

You can use the Z-Index option to position JPG objects:

```
< PrtType:HTML >
    IMG_ZIndex = 100
```

The z-index indicates the stacking order of objects based on the order in which those objects appear in the HTML file. Higher values place objects closer to the front while lower values place them further to the back. Objects with the same value are stacked based on the order in which they appear in the HTML source.

For instance, a positive value positions an object above text that has no defined z-index. A negative value would place the object below the same text.

If you omit this option or leave it blank, Studio will not layer objects.

Importing color bitmaps

Studio can import the following types of color bitmaps:

• TIFF

• BMP

• LOG

• JPEG

To import another type of bitmap, first convert it to monochrome (black and white). Both gray-scale and color bitmaps can be converted to monochrome bitmaps.

GDI and PCL print support color printing. Select File, Print to display the Print window. Select the printer type and device and click the Send Color option to print in color.

NOTE: Color bitmap and JPG files are only supported on Windows and UNIX systems if you are using the GenPrint program to print to color GDI, PCL, or PostScript printers or if you are producing color PDF or RTF output.

Color logos and TIF files are converted to monochrome for Metacode and AFP output, but are supported on Windows, UNIX, and MVS systems.

Reverse black and white file types
: Studio can also import reversed black and white bits. A flag tells you whether a bitmap was stored in the opposite method. You can automatically reverse the bit if necessary.

Converting files
: You can use the Edit, Save As, option to convert a logo to one of the following file types:

- Logo files (*.LOG)
- Comp. Pack (*.LOG)
- Comp. TIFF (*.LOG)
- Bitmap (*.BMP)
- Xerox font (*.FNT)
- Xerox image (*.IMG)
- AFP page segment (*.SEG)
- JPEG (*.JPG)

To do so, open the logo and choose the File, Save As option. Select the type of file you want to convert to in the Save File As Type field. You can also convert files using the Manage, Conversion, Convert Logo Files option. If you have a large number of LOG files to convert into JPEG files, see the DocuToolbox Reference for information on using the LOG2JPG utility.

NOTE: An AFP page segment can contain a mixture of text, image objects, and graphics data objects and can be placed anywhere on a presentation page. Programs can request page segments for presentation in a page or overlay. Page segments are used for logos, signatures, and boilerplate. A Xerox font can also include multiple logos or signatures.

OPENING A LOGO

Use the following instructions to open a logo file for editing.

1 Choose Logos from the Manage menu or from the Workspace. The Open File window appears.

NOTE: This option specifies the directory for storing logos:

```
< MasterResource >
    LogoLib =
```

If you omit this option, Studio looks for logos in the path defined for FormLib.

2   Highlight the file you want and click Ok. The logo appears. If you want to open a file that has not been checked into the library, click Browse.
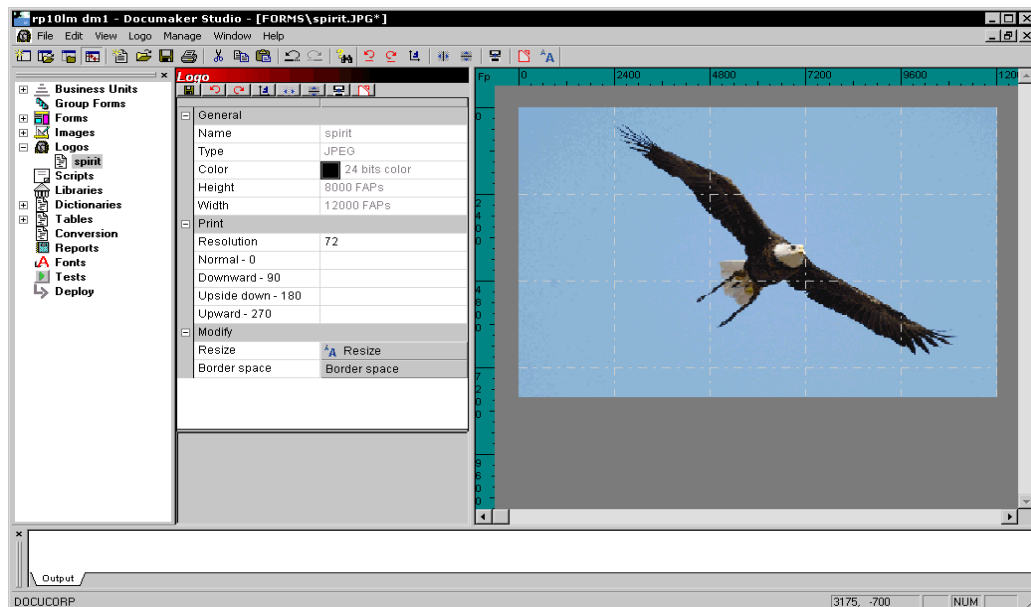
Importing a signature or logo

You can import a signature or logo out of a Xerox font that contains multiple signatures or logos by clicking Browse and following these steps:

1   Select Xerox font data in the Files of Type field. For the import to be successful, you must know the characters which comprise the signature or logo and you must match case when entering the characters to be imported.

Be sure you do not select Xerox font files (*.FNT) as the file type by mistake.

2   Select the file containing the signature or logo and click Open.

3   Studio asks you to enter the characters to convert from the font file. You must enter the exact characters in the exact case for the system to properly import the signature or logo. For example, if the characters JHNDOE are used to print a signature from John Doe, you can't enter jhndoe.

4   Click Ok.

EDITING A LOGO

Once you open a logo, you have these options when you right click on a logo:

- Undo

- Redo

- Rotate

- Mirror

- Reverse

- Convert to BW

- Resize

- Border Space

- Clip

Undo   Use the Undo option to cancel or reverse your last action or choice, and restore the logo to its prior appearance. Since the system keeps track of all actions, you can select Undo several times to undo your most recent changes one at a time.

Redo   Use this option to repeat an action you have just reversed. For instance, if you rotate a logo, then click Undo to restore it to its original position, you can then click Redo to rotate the logo again.

Rotate   The Rotate option takes the current logo and turns it in the direction you choose. You can rotate the logo left or right or flip the logo.

Mirror   Use this option to create a mirror image of the logo. If you want to create a mirror image of the logo, you can select either vertical or horizontal.

Reverse   The Reverse option creates a *negative* of the logo by taking the open logo and switching the black and white colors.

Convert to BW   Use the Convert to BW option to convert a logo to black and white. Reducing the number of colors typically reduces the size of the logo. The system displays the Color Selection window when you choose this option. If you select Print in Color, the system prints the logo in the color you selected.

Resize   The Resize option gives you two choices for changing the size of the logo you're working in: absolute and by percentage. The Absolute option lets you set the height and width in inches. If you choose the Absolute option, your logo will not necessarily retain its current proportions.

The Percentage option lets you increase or decrease the size of the logo by the percentage you choose. If you choose this option the system retains the current proportions of the logo.

Border Space   The Border Space option lets you add and remove white and black space around the logo. The amount of space can be as precise as needed.

To add white space, simply uncheck the Black Border field and set all the fields to the specific amount of white space you need. If you then want a black border or frame around the logo, check the Black Border field again and enter the amount or thickness of the border.
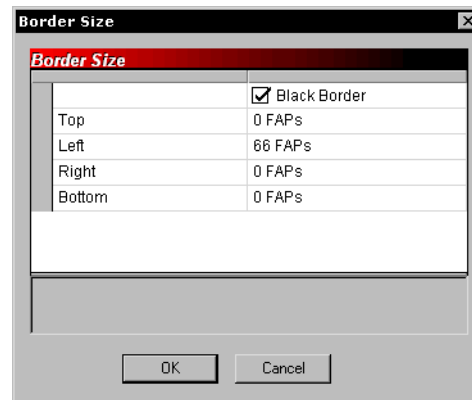
Clip   The Clip option lets you crop the logo. After you select the Clip option from the Edit menu, outline the portion of the logo you want to keep by clicking and dragging the mouse. The selected area remains while everything outside the outline you dragged around the image is discarded.

SETTING ROTATION NAMES

Use the Normal, Downward, Upside Down, and Upward fields in properties to enter logo file names if you want to print a rotated logo using an AFP or Xerox Metacode printer. The names you enter here are the names of the printer resources (files stored on the printer) which are to be used when printing a logo which has a rotation of 0, 90, 180, or 270 degrees. One system logo file can equate to four printer resource files.

> **NOTE:** PCL and PostScript printers do not have printer resource files, so they can automatically rotate a logo. You only need to enter these names if you are using an AFP or Xerox Metacode printer.

AFP and Metacode printers cannot automatically print a rotated logo. Therefore, you must create four printer resource files to support a logo printed in any rotation. Since you cannot rotate a logo directly on a FAP image, you need rotated logos when using logos on a non-portrait long edge image. For example,

- Portrait, long edge bind requires a zero (0) degree (normal) rotation printer resource.

- Portrait, short edge back page requires a 180 degree (upside down) rotation printer resource.

- Landscape, long edge bind requires a 270 degree (upward) rotation printer resource for Xerox printers and a 90 degree rotation printer resource for AFP printers.

- Landscape, short edge back page requires a 90 degree (downward) rotation printer resource for Xerox printers and a 270 degree rotation printer resource for AFP printers.

Portrait, long edge bind
(zero (0) degree rotation)

Landscape, long edge bind
(270 degree rotation for Xerox)
(90 degree rotation for AFP)

(90 degree rotation for Xerox)
(270 degree rotation for AFP)
Landscape, short edge back page

(180 degree rotation)
Portrait, short edge back page
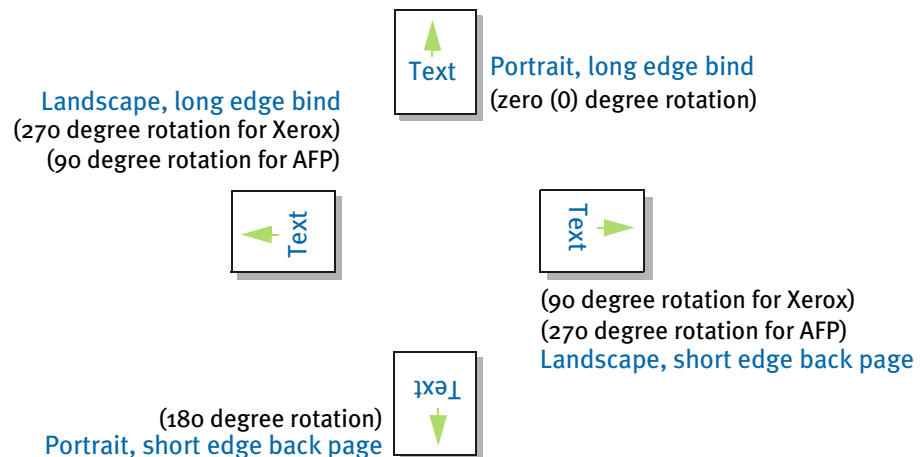
> **NOTE:** If you are using a Metacode printer, *do not* enter more than six characters per name.

Changing the Resolution

The Resolution field in the Properties lets you change the dpi (dots per inch) of the logo. Resolution determines the clarity of the object for use with different printer types. The more dots per inch, the sharper and more defined the object appears.
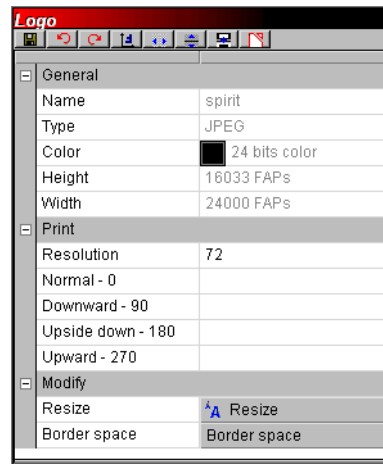
SETTING RULER AND GRID OPTIONS

You can select View, Options to turn on or off rulers and the grid.
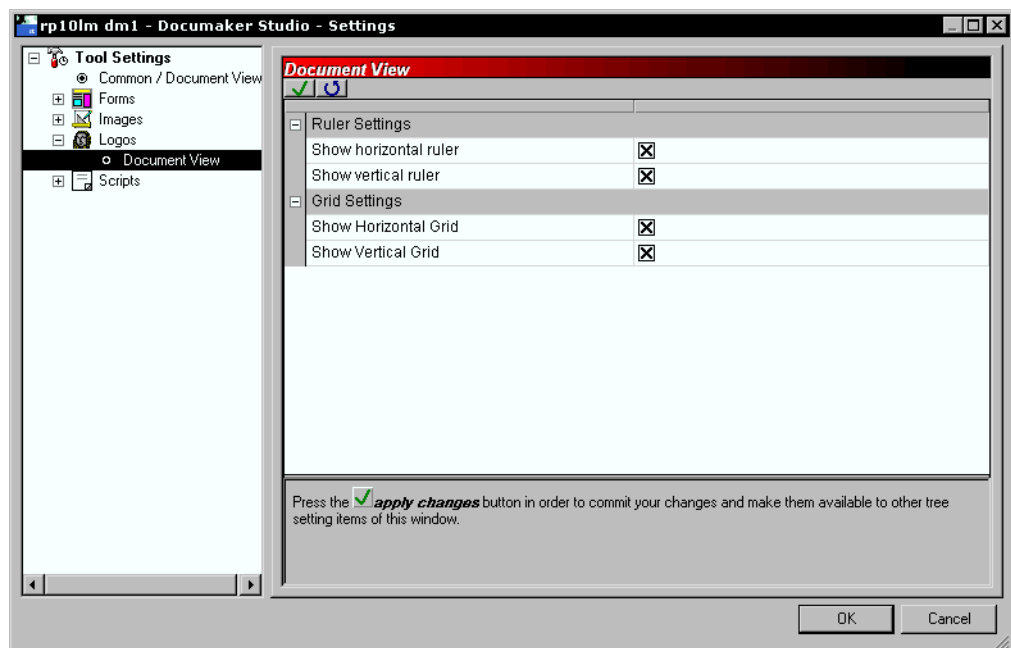
The Grid Settings let you display or hide horizontal and vertical grid lines on the logo. Grid lines show you the edges of the logo. Select the appropriate Show field to display a grid line. Click Ok to exit the window and apply your changes.

By right clicking on a logo and choose the Rulers option, you can set the display options for the horizontal and vertical rulers. Select the ruler's units of measure in the field to the right. You can choose between FAP units (1/2400 of an inch), points, inches (1/6, 1/8, or 1/10), centimeters, or picas.

Creating Scripts

You can write DAL scripts to automate system tasks. Click on Scripts to open the DAL Script Editor.

This chapter discusses this topics:

USING THE SCREEN

Studio places all the tools you need to work with DAL scripts at your fingertips. The screen is your work area. It is important to become familiar with the general screen layout and parts of the screen to work quickly and efficiently.

The window that appears when working with a DAL script is shown here.
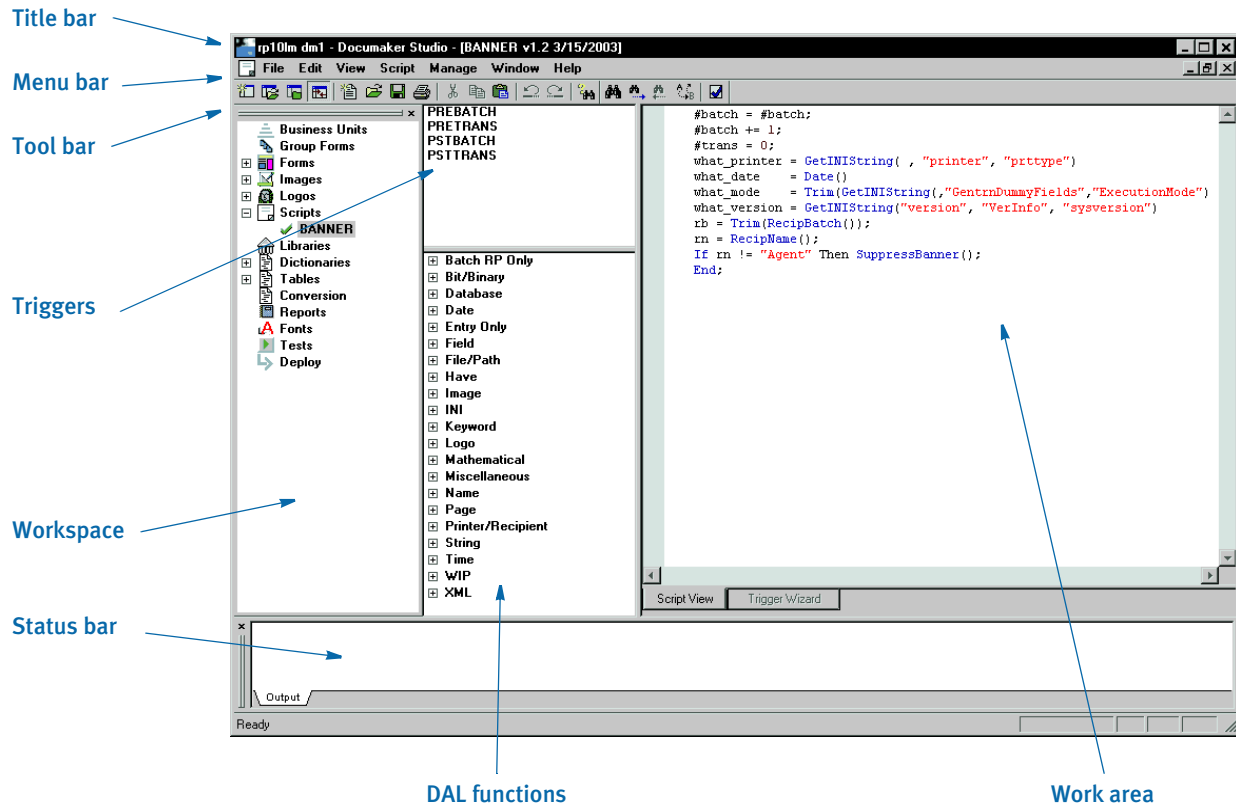
Title bar

Menu bar

Tool bar

Triggers

Workspace

Status bar

DAL functions

Work area

Item	Description
Title bar	The title bar displays the name of the workspace you have open, followed by Documaker Studio, and then the name of the DAL script you have open.
Menu bar	The menu bar provides the list of available pull-down menus.
Tool bar	The tool bar contains a row of icons that provide quick access to common options.
Triggers	Here Studio lists the triggers associated with this DAL script.
Status bar	The Status bar gives the coordinates of the mouse pointer in the work area. The mode of operation, such as ready or edit, also appears here.

Item	Description
Workspace	The workspace lets you quickly access different items. It also shows which specific resources that are checked out (green check mark), which resources are checked out by another user that you would only have read-only access to (red check mark), and which resources are open in read-only mode or have never been checked into the library.
DAL functions	This panel lists the various categories of DAL functions and procedures. You can expand each category to see the DAL functions and procedures included within.
	To insert a function or procedure, simply highlight it and then drag it to the appropriate location within the script.
Work area	This is where you work with the DAL script.

USING THE MENU BAR

This section introduces you to the pull-down menus which include additional options or are only available when you are working with DAL scripts.

NOTE: For information on the standard menus and menu options which are always available, see Using System Menus on page 14.

Menu	Description
Edit	To this menu, Studio adds the Syntax Check option.
Script	The Script menu provides you with options you can use when writing or editing a DAL script.

Using the Edit Menu

The Edit menu provides standard word processing options you can use as you create and modify DAL scripts. These options let you copy, cut, delete, and paste text or select all of the text in the script. Edit options also let you find and replace text.

When you select Edit when working with DAL scripts, this menu appears:

The grayed-out options are standard Edit menu options.

Option	Description
Syntax Check	Lets you check your script for syntax errors. See x for more information.

Using the Script Menu

The Script menu provides you with options you can use as you work with DAL scripts. You can insert and delete functions or convert the file into a library, trigger file, or script. When you select Script, this menu appears:

Option	Description
Insert New Function	Use to insert a DAL function.
Delete Function	Use to remove a DAL function.
Convert to Library	Use to convert this file into a library file.
Convert to Trigger File	Use to convert this file into a trigger file.
Convert to Script File	Use to convert this file into a script file.

USING THE RIGHT-CLICK MENU

When working with scripts, you can right click to see the following menu.
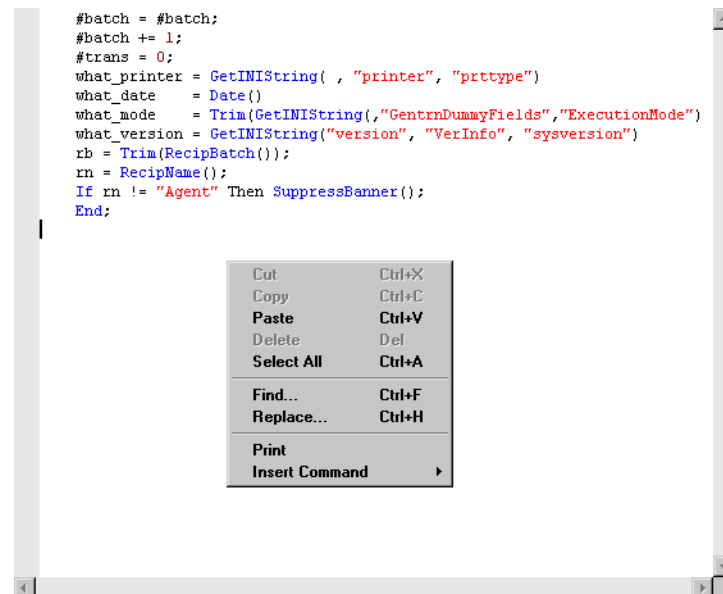
Option	Description
Cut	Remove a highlighted selection and place it on the clipboard. Use Paste to insert the selection into another part of the script.
Copy	Make a copy of the selection and place it in the clipboard. Use Paste to insert the selection into another part of the script.
Paste	Insert the contents of the clipboard at the cursor location.
Delete	Erase the selection. The selection is not stored on the clipboard so you must immediately select Undo if you change your mind.
Select All	Select all of the script. You can then cut or copy the script.
Find	Select to find a text string in the file.
Replace	Select to find a text string and replace it with another text string.
Print	Send the current file to the printer.
Insert Command	Use to insert a DAL function or procedure. When you choose this option a list of categories appears. You can then choose the appropriate function or procedure from the appropriate category.

NOTE: To learn more about individual DAL functions and procedures, see the DAL Reference.

USING THE TOOL BAR

The tool bar provides a quicker way to select options that may be listed on a drop down menu. Here is an example of the tool bar shown when you are working with scripts:

Standard tool bar icons

Shown below are the tool bar icons that are always available. The icons are listed as they appear, from left to right.

Icon	Name	Description
	New Workspace	Creates a workspace.
	Open Workspace	Opens a workspace.
	Close Workspace	Closes an open workspace.
	Toggle Workspace	Toggles between displaying and hiding the workspace.
	New	Creates a file.
	Open	Opens a file.
	Save	Saves the open file.
	Print	Prints the current object.
	Cut	Removes an object and places it on the clipboard.
	Copy	Copies an object and places it on the clipboard.
	Paste	Places an object from clipboard onto the current file.

Icon	Name	Description
	Undo	Reverses your last action
	Redo	Reverses last undo.
	Help	Displays the Help window

Script tool bar icons   Shown below are the tool bar icons that appear when you are working with scripts.

Icon	Name	Description
	Find	Select to find a text string in the file.
	Repeat	Select to repeat the last action.
	Find previous	Select to return to reverse the search.
	Replace	Select to find a text string and replace it with another text string.
	Check syntax	Select to check your script for syntax errors.

OVERVIEW   Here is an example of the window that appears:
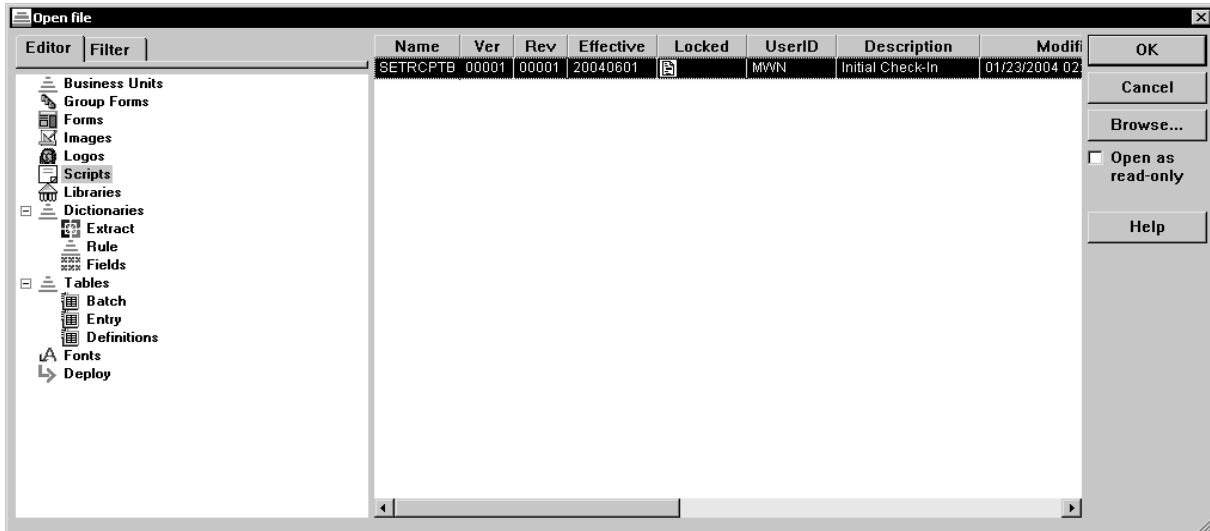
After you select the script you want to edit, the system displays in a window similar to the one shown here:

You can insert DAL functions and procedures from here.

Simply highlight the function or procedure you want to insert, then drag it to the appropriate location in the script.
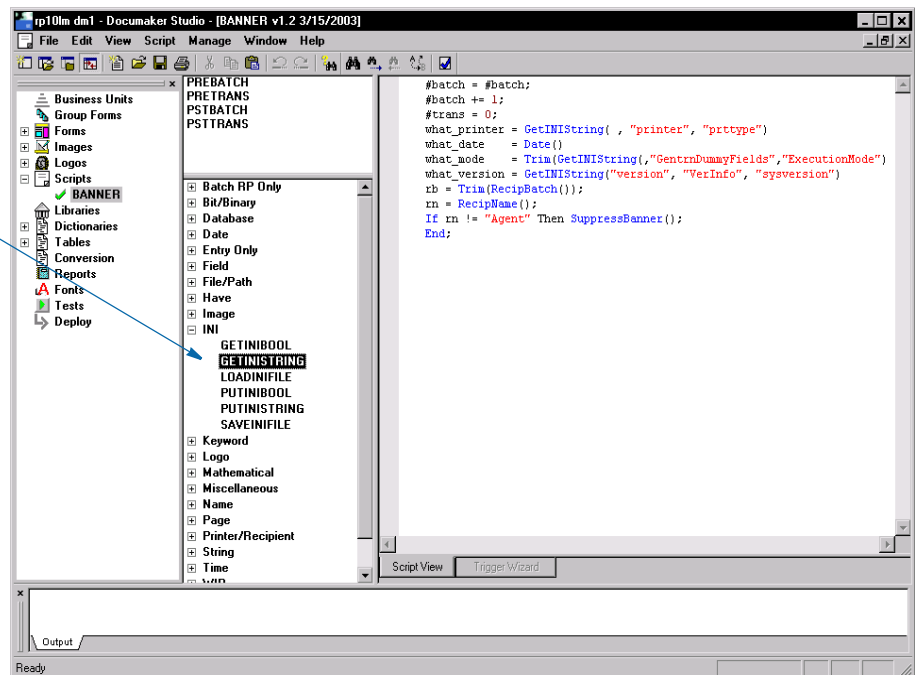
When editing a DAL script, you can right click to display a menu of editing options. This menu provides another way to insert a DAL function or procedure, as shown below:

Right click to display the context menu, then highlight the Insert Command option.

You can choose from a list of DAL function categories.

When you highlight a category, the applicable functions appear.

Highlight the one you want to insert it into your script.
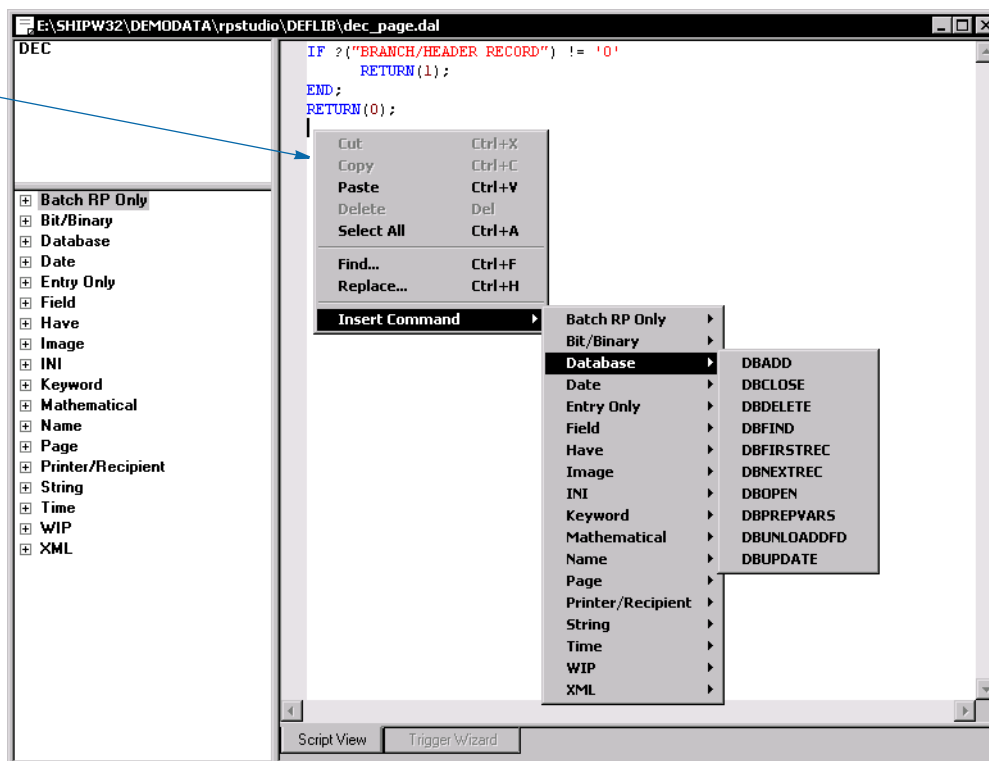
NOTE: To learn more about individual DAL functions and procedures, see the DAL Reference.

CHECKING SYNTAX

When creating a DAL script, you can easily check for syntax errors by choosing the Edit, Check Syntax option.

NOTE: You can also check for syntax errors by clicking this icon on the tool bar:

Here is an example of what you will see when you check the syntax of a DAL script:

This icon tells you there is a syntax error on this line of the DAL script.

Here, the system explains the error
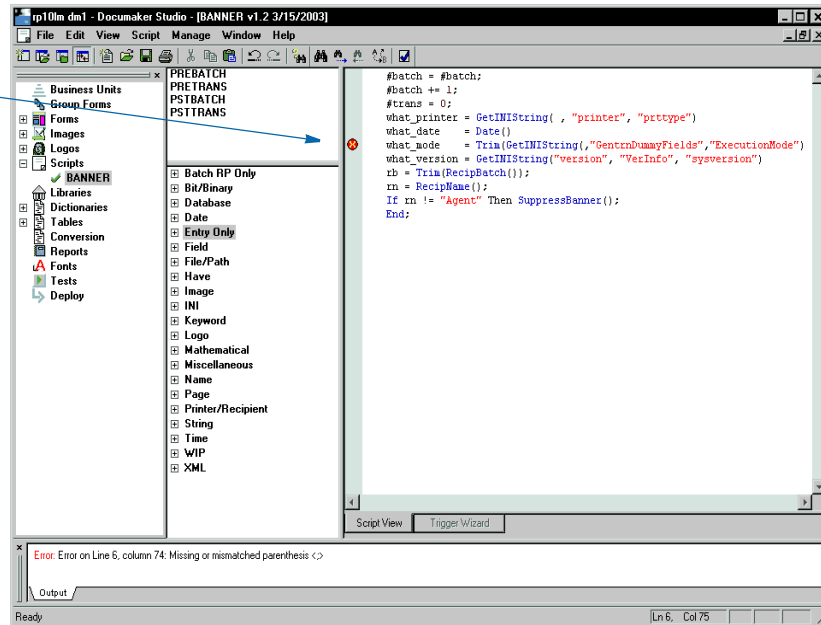
The following icon marks each line with a syntax error:

An explanation of the syntax error appears in the status bar

Studio tells you the line and column number to make it easier to find the error.

This table discusses the types of things Studio checks for:

Error	Description
Out of memory	This can indicate you are running low on memory or have some other internal memory problem. Try closing any other applications or open documents within the program to free memory before trying again.
Open failure on script file	This indicates the program could not locate or open the referenced script file. This could mean the file name or path is incorrect or that the file did not contain the expected DAL information. You would typically not receive this error during a syntax check.
Syntax error	This message indicates that something on or about the line where it was encountered that did not meet the syntax requirements. Check parentheses for matches; that quoted strings are defined correctly; and that semicolons are used to separate multiple statements on a single line.
Wrong number of parameters	This is an unlikely message to receive during a syntax check. The syntax check does not actually execute internal functions and therefore only minimal parameter validation occurs. This message indicates that a DAL function or procedure was called with the incorrect number of parameters. Check the documentation of the function for more information.
Wrong type of parameter	This message indicates that a parameter passed to a DAL function or procedure is not of a type that can be used by that routine. In most cases, DAL automatically handles the conversion of variables types, however, there are some variable types it cannot convert. For instance, a list variable can be assigned to another list variable, but it cannot be converted to a number or string. Therefore passing a list variable to a function expecting a string might cause such an error. This is an unlikely message to receive during a syntax check. The syntax check does not actually execute internal functions and therefore only minimal parameter validation occurs.
Invalid or unknown symbol	During a syntax check, Studio can only verify that the defined symbol follows the correct naming requirements. The syntax check cannot verify whether functions or variables you might use will exist at runtime. Encountering this error during a syntax check means the defined item does not conform to naming requirements. If a DAL variable or function you reference does not exist at the point where it is referenced during the runtime execution of the script, you will not receive this message at that time.

Error	Description
Invalid assignment statement	This means you have created an invalid arithmetic or assignment statement. Typically this indicates you forgot the assignment operator or omitted an expected arithmetic operator. For instance, AVAR=BVAR is correct syntax; using AVAR==BVAR would generate the invalid assignment statement message because the operator == is unknown. AVAR BVAR (with no operator specified) also generates the invalid assignment statement message.
Cannot modify target	This message indicates the script is incorrectly trying to assign or change data associated with a constant (or keyword) item that cannot be changed. An example of this is to use a statement like 1 = AVAR. You cannot change the constant value of 1 in this case. A situation where you might encounter this error is when you attempt use a variable that happens to have the same name as a defined function or DAL routine.
Unexpected internal error	This message indicates the script processing has resulted in a condition that was not expected. It is difficult to predict when you might receive this error, although it is probably more likely to be encountered during runtime execution of the script than during a syntax check. Typically, this message indicates you have an expression or function parameters that do not resolve to an expected state.
Missing or mismatched parenthesis	This message indicates the number of opening and closing parentheses used within the statement do not match. For each open parenthesis, there should be a closing parenthesis.
Invalid IF statement	This message indicates there is some problem with the construction of the IF statement. It could mean you have forgotten a parenthesis, or a quote around a constant, or that a subsequent keyword limited to use within an IF statement was encountered outside of the IF structure. This would include these keywords: ELSE, ELSEIF, and END.
Unexpected after ELSE	(24) The ELSE statement is the final branch of an IF statement. This error will be generated if another ELSE or ELSEIF condition is found that appears to belong to the same IF statement.
CONTINUE outside of WHILE	(25) The CONTINUE statement is only valid when used within a WHILE-WEND statement group. This error may not always be caught by syntax checking, but will be during runtime execution.
BREAK outside of WHILE	(26) The BREAK statement is only valid when used within a WHILE-WEND statement group. This error may not always be caught by syntax checking, but will be during runtime execution.
Invalid WHILE statement	(27) This message indicates a WHILE statement did not end with a WEND or that a WEND statement was encountered without a WHILE.

Error	Description
Unexpected WEND statement	(28) Similar to the invalid WHILE statement message, this message indicates a WEND statement was encountered incorrectly. This error may not always be caught by syntax checking, but will be during runtime execution.
Unexpected end of script	This message indicates the end of the script was encountered before finding an expected keyword or that the script was empty. Such a condition can occur if you fail to terminate an IF statement with an END or a WHILE statement with a WEND before encountering the end of the script. This error may not always be caught by syntax checking, but will be during runtime execution.
Invalid expression syntax	This error indicates the expression did not result in a value as expected. Such a situation can occur if you called a function or procedure that expected a value and none was returned. Since the syntax check does not actually execute internal functions, it is not always possible to identify this problem prior to runtime. This error may not always be caught by syntax checking, but will be during runtime execution.
Attempt to divide by zero	This message indicates the expression results in an attempt to divide a numerator by zero. This is an undefined mathematical situation and is flagged as an error by most processors. In most cases, this message appears during runtime execution. The syntax checker only catches this situation if the expression explicitly uses a zero constant as a devisor.
No result value returned	This message is unlikely to be generated during a syntax check. The message indicates that a function or called DAL script or routine did not place a return value on the internal stack. If the code is calling a DAL routine, make sure all the RETURN statements in the called script include a return parameter and that there is a RETURN statement at the end of the script.
Statement label already used	This message indicates the same label used as a destination for a GOTO statement has been defined in multiple places within the same script. This error may not always be caught by syntax checking, but will be during runtime execution.

Unknown statement label	This message indicates the label defined as the destination for a GOTO statement could not be located within the defined script. Typically, this means you have incorrectly identified the label in the GOTO statement or have omitted the label destination in the script. Make sure to name the destination label on the GOTO statement with the tailing colon.
	
	`GOTO BOB (incorrect)`
	`GOTO BOB: (correct)`

Invalid statement label	This message indicates the defined label does not conform to the definition requirements of a GOTO label. Statement labels have the same requirement as string variables and must begin with a letter and be no more than 64 characters in length, including the terminating colon on the end of the name.

Error	Description
Function out of place	This message indicates you have called a function which must return a value, but did not define the expression in a way to use the resulting value.
	For instance, the HaveForm function must return a zero or one to indicate if the defined form is included in the document set. If you use this function without capturing or testing the returned value, this message appears.
	Since the syntax checker does not actually execute internal functions, it is unable to identify when such a situation might exist. These errors occur during the runtime execution of the script.
Illegal parameter value	This message indicates you have called a function or procedure with an invalid parameter value.
	Since the syntax checker does not actually execute internal functions, it is unable to identify when such a situation might exist. These errors occur during the runtime execution of the script.
Table has not been opened	(22) This message indicates a function or procedure was called with a parameter naming a table, such as a database file, that was not explicitly opened.
	Since the syntax checker does not actually execute internal functions, it is unable to identify when such a situation might exist. These errors occur during the runtime execution of the script.
	If you encounter this error, make sure that the DBOPEN statement was not skipped due to an IF statement or GOTO operation.

Managing Resources

This chapter discusses how you can store the resources that comprise your forms in libraries and use Studio and other tools to manage those resources.

Included in this chapter is information on:

OVERVIEW

You use a variety of resources to build a form set. These resources can include images (FAP files), logos (LOG files), and processing scripts (DAL scripts).

Studio creates a library into which you can place the resources and provides features that let you manage those resources. For instance, Studio lets you date stamp a resource so it will not be used until its *effective date* is reached.

As you work with resources, such as images or logos, Studio lets you check resources into and out of the library. When a resource is checked out, Studio marks that resource as being locked and prevents others from checking it out until it is checked back in.

Documaker Workstation uses the library management capabilities to get the appropriate version of a resource, based on the effective date of the documents being generated.

Likewise, Documaker RP uses the library management capabilities to load the correct resources from the library when needed. And, the Documaker Bridge for Docupresentment uses library management capabilities to retrieve the correct version of each of the resources used when the document was archived.

To better understand library management, it is important for you to become familiar with the following topics:

- Terminology on page 173

- Concepts on page 175

- How It All Works on page 183

- Managing Workflow on page 188

TERMINOLOGY

Before you begin managing your resources in libraries, there are some terms you should understand and concepts you should be familiar with.

Check in
: The process of putting a resource back into the library after you have checked that resource out.

Check out
: The process of selecting a resource from a library. When you select the resource, it is locked. It remains locked until you check the resource back in.

Effective dates
: A field in the library index that is associated with a resource in the library. This field indicates the date at which the resource is available for use, or when it will become effective.

Expire
: The process of designating a library resource as being unavailable for use beginning with a supplied expiration date.

Extract
: The process of making a copy of a resource in a library and writing that copy to disk.

Libraries
: Refers to the physical files in which the resources are stored. Logically, a library is divided into an index portion and a data portion.

Modification dates
: A field in the library index that contains a timestamp indicating the date and time the resource was last modified or checked in to the library. This field is in hexadecimal format in the index but is formatted to a more readable format when displayed in the tools.

Revisions
: A field in the Library Index that indicates the minor change number. The revision number is generally incremented by one each time a resource is checked out and back in. If, however, the version number is incremented, the revision number is reset to 1 for that version. A revision number consists of five digits, such as *00001*.

NOTE: When a resource is expired, the revision field is set to *EXP*.

Response files
: In Documaker terms, a file created by the LBRYMGR utility that contains commands and data. These commands and data are then read by Studio (or the LBRYMGR utility) and processed accordingly.

Promotion
: The process of copying (or promoting) resources from one library to another library, based on criteria you specify. Resources from the source library that have a newer modification date than resources, with a corresponding name, in the target library, are copied to the target library.

Unlock
: The process of removing the lock from a resource that you have previously checked out. Only the user who locked the resource can unlock it.

Versions   A field in the library index that indicates the major change number. The version number is only incremented upon check in when you check the Increment Version field. If you want to change the effective date for the resource you are checking in, you are forced to check the Increment Version field before you are allowed to type a new effective date.

In Documaker 10.2 and higher, a version number consists of five digits, such as *00001*.

CONCEPTS

In addition to the terminology you should be familiar with, there are several concepts:

- Understanding Libraries on page 175

- Processing with Effective Dates on page 177

- Retrieving Resources with Version and Revision Numbers on page 178

- Stringently Checking Resources on page 179

- Understanding Run Dates on page 181

Understanding Libraries

A Documaker library consists of an index and its corresponding data. Generally, the index is contained in one table and the data portion in another table. The index table contains one row for each version and revision of a resource with a specific name and of a specific type.

The index table includes these fields. The maximum length is indicated in parentheses:

Field	Description
FileType (3)	This field can contains a value that defines the type of resource this row refers to, such as FAP, LOG, BDF, GRP, or DAL.
FileSTyp (3)	This field indicates the sub type of the resource this row refers to. This field is not currently used and is usually set to the value of the FileType field.
FileName (100)	This field indicates the name of the resource, such as Q1SNAM, Q1ADDR, or IMAGE1. The name can consist of up to 100 characters.
Resource (25)	Reserved for future use.
Descript (100)	This field contains a description of the resource or the last change made to it. You can enter up to 100 characters.
Effectiv (10)	This field contains the date on which you want this resource to become available for processing. This date is stored in D4 format (YYYYMMDD) in the library index. Depending on your locale setting (Choose Settings, then go to the Locale option in the Language control group), you may see the date displayed in other formats like MMDDYYYY or DDMMYYYY.
ModifyTm (10)	This field indicates the date and time the resource was last checked in or modified. This date appears in the appropriate format for your locale setting, along with the time.
FileIndx (8)	This field contains a number that, for xBase implementations, connects this index record to a compressed file in the data portion of the library.
RecStat (3)	This field indicates whether this resource is locked or not. If locked, the field contains *LOC*, otherwise it is blank.

Field	Description
Version (5)	This field contains the version number of this resource. The version number starts at 00001 and, as the resource is checked out and checked in, is incremented if you have checked the Increment Version field.
Revision (5)	This field contains the revision number of this resource. The revision number starts at 00001 and, as the resource is checked out and checked in, is incremented. If you have checked the Increment Version field, the version number is incremented instead of the revision number and the revision number is reset to 00001.
	When a resource is expired, the revision field is set to *EXP*.
UserID (64)	This field shows you the user ID of the user who last modified the resource, or who has the resource checked out. This ID can consist of up to 64 characters.
UsrLevl (2)	Reserved for future use.
Passwd (64)	Reserved for future use.
Unique_ID (26)	This field contains a unique identifier used for internal purposes.
ArcKey (18)	This key is used with DBMS implementations of the library to connect this index record to a row in the data table of the library. When using a DBMS, this field is used instead of the FILEINDX field, which is used in xBase implementations of the library.
LibName (129)	This is the name of the library. This name can consist of up to 129 characters.
AppData (10)	This field can contains up to 10 characters of additional, customer-specific application data.
Mode (25)	This field indicates the mode of the resource. You define the modes using the Manage, Settings options. For instance, you could set up modes to denote milestones in the development process such as Development, Testing, and Production. You can enter up to 25 characters. For more information, see Defining Mode, Status, Class, and Project Options on page 252.
Status (25)	This field indicates the status of the resource. You define the status codes using the Manage, Settings options. For instance, you could have codes like Pass or Fail. You can enter up to 25 characters. For more information, see Defining Mode, Status, Class, and Project Options on page 252.
Class (25)	This field indicates the class of the resource. You define classes using the Manage, Settings options. You can use classes to group resources by product lines or by geographical regions, such as GA, TX, or MD. You can enter up to 25 characters. For more information, see Defining Mode, Status, Class, and Project Options on page 252.

Field	Description
Project (25)	This field indicates the project code that last modified this resource. You define project codes using the Manage, Settings options. You can enter up to 25 characters. For more information, see Defining Mode, Status, Class, and Project Options on page 252.

While the index portion of the library contains attributes for each version/revision combination of a resource that is stored in the library, the data portion of the library contains the resources themselves.

The structure of the data portion of the library depends on how the library is defined (xBase, DBMS, Documanage), but in general, the data portion contains each of the version/revision combinations of the resources listed in the library index.

Processing with Effective Dates

Because document requirements change over time, your forms will evolve. Studio lets you assign effective dates to resources so you can make changes ahead of time while making sure those changes are put in effect only when appropriate. You can change the content of a form as necessary and control the date at which the new form takes effect. Using effective dates also lets you preserve prior versions of a form so when you need to retrieve a version of a form that was effective, for example, a year ago, you can.

In the Documaker system, a form may be composed of one or more images. An image is also called a FAP file because *fap* is the extension the Studio applies. So, if a form needs to be changed, then one or more of the images (FAP files) that comprise the form need to be changed.

For example, you have a form called *DEC PAGE*. This form consists of these images...

- Q1SNAM
- Q1MDC1
- Q1MDC2
- Q1MDC3

The Q1SNAM image contains the company's corporate address. The company's corporate address is going to change next month. and you want to go ahead and change the address to reflect the change.

You can check out the Q1SNAM image (FAP), make the address change, then check in the Q1SNAM image and set the effective date for this new version of Q1SNAM to the first of next month.

If the DEC PAGE form is assembled at any time this month, the version of Q1SNAM that is effective this month (the older one) is used. If the DEC PAGE form is assembled next month, the version of Q1SNAM that is effective next month (the newer one) is used.

This example uses a FAP file to demonstrate how the effective date of a resource can be used to cause a different version of that resource to be used at the appropriate time. You can also manage logos (LOG files) and DAL scripts in the same way.

NOTE: Keep in mind if you are triggering forms based on effective date processing:

- If possible, avoid creating forms with effective dates that require updated printer resource files, such as fonts, form overlays, bitmap files, and so on.

- Otherwise, make sure you have the corresponding set of printer resource files for the forms based on the effective date to be processed.

Retrieving Resources with Version and Revision Numbers

When a resource is added to the library it is assigned a *version* number and a *revision* number. A resource added to the library for the first time is given a version number of *00001* and a revision number of *00001*. The version number and revision number change as the resource is checked out, changed, and checked back in.

Generally, if you check out a resource to make a small change, the revision number of the resource is incremented by one when you check in the resource. If you make a major change to the resource, or if this change requires you also change the effective date, the version number is incremented by one. The version number is considered a *major* number and the revision number is considered a *minor* number.

Typically, version/revision numbers are shown in this format:

version.revision

and leading zeros are omitted. So version *00001,* revision *00003* is referred to as *1.3*.

NOTE: Documaker (versions 10.2 and higher) enforces the rule that all revisions of a particular version of a resource must have the same effective date. Prior to version 10.2, Documaker allowed revisions of a particular version of a resource to have different effective dates.

When you request a resource, the request generally supplies a resource type (FAP, LOG, or DAL), a name (such as Q1SNAM) and a run date (such as 20071225, which is December 25, 2007). Studio searches the library index for items that match that name and type, then chooses the one which has an effective date closest to, but not exceeding, the run date.

If Studio finds there are two or more versions of the same resource with the same effective date, it chooses the one with the higher version/revision number. For instance, the version/revision 2.1 is considered to be higher than the version/revision 1.2, so between these two resources, Studio would choose 2.1.

Stringently Checking Resources

In Documaker 10.3   In Documaker 10.3 and higher, the StringentChecking option defaults to Yes. Stringent checking means that if Studio finds versions of a resource in the library but none are effective yet — their effective date is greater than the run date being used— it will not return any of those resources.

Although you should leave the StringentChecking option set to Yes, you can, however, override it, as shown here:

```
< LibraryManager >
    StringentChecking =  No
```

When StringentChecking is set to No, Studio tries to return some version of the resource, even if that resource is not yet effective. If Studio finds versions of a resource in the library but none are effective yet, Studio returns the resource with the oldest effective date.

If the StringentChecking option is set to No and Studio does not find any versions of the resource in the library, it tries to find the resource on disk, in the location designated for that resource type in the INI file. If it finds the resource on disk, it returns that resource.

In Documaker 10.2 and earlier   In Documaker 10.2 and earlier, the StringentChecking option defaults to No. If the system finds versions of a resource in the library but none of those versions are effective yet, it returns the oldest version/revision of that resource.

If the system does not find any versions of the resource in the library, it tries to find the resource on disk, in the location designated for that resource type in the INI file. If it finds the resource on disk, it returns that resource.

For DDT files only, if you want the system to issue an error message or to perform specialized processing, you can set the StringentChecking option to Yes. In Documaker 10.2, stringent checking is only available for DDT resources and only affects the GenData program.

You can use these INI options to control the stringent checking of DDT resources:

```
< DDTResource >
    ErrorOnMissingFile    = Yes
    RemoveImageMissingDDT = No
    StringentChecking     = No
    WarnOnMissingFile     = Yes
```

Option	Description
ErrorOnMissingFile	The system normally generates an error if a DDT file cannot be found for a triggered image. Errors are written to a file, named using the ErrFile option in the Data control group.
	This file is typically called ERRFILE.DAT. Set this option to No to prevent the system from generating an error message when it cannot find the DDT file. The default is Yes.

Option	Description
RemoveImageMissingDDT	A DDT file is normally required for any triggered image and not finding an image is a fatal error for a transaction. Setting this option to Yes tells the system that when it cannot find a DDT file for a triggered image, it should remove the image from the form set. This can result in the removal of the form as well if all images are removed. An empty form set can result if all of the forms are removed. If this results in an empty form set, the system generates an error message. The default is No.
StringentChecking	Normally, if the system does not find an effective version of the file, it returns the oldest version/revision of the file. If, however, you set this option to Yes, only an effective version of the file will be returned. If no such file exists, nothing is returned. Stringent checking is only applicable when you use the system to control effective date eligibility of DDT files. The default is No.
WarnOnMissingFile	Normally, the system generates an error if it cannot find a DDT file for a triggered image. You can, however, suppress this error by setting the ErrorOnMissingFile option to No. When you suppress this type of error, the system assumes you still want a warning message but by setting this option to No, even the warning message is suppressed. The default is Yes.

Understanding Run Dates

The idea behind effective date processing is that, within a library, there can be multiple versions of a resource, each with a different effective date. When the system creates a form set, it is built with the version (and revision) of the resources that were, or will be, effective on a given date. In Documaker RP, this date is called the *run date*. In Documaker Workstation it is called the *create date*.

When using Studio to manage your resources, you must use run dates for the system to construct, archive, and retrieve your form sets correctly. Be sure to:

- Define the RunDate field in your TRNDFDFL.DFD, RCBDFDFL.DFD, and APPIDX.DFD Data Format Definition (DFD) files.

- Create the extract file to include the run date for each transaction's set of records.

- Use the TRN_FIELDS control group to indicate the location of the RunDate and other fields in the extract file. The GenTrn program uses this control group.

- Set the RunDate option in the Trigger2Archive control group as shown here to make the GenArc program populate the APPIDX file with the RunDate from the NEWTRN file:

```
< Trigger2Archive >
    RunDate = RunDate
```

- Set the RunDate option in the AFEWIP2ArchiveRecord control group to make Documaker Workstation (PPS) populate the APPIDX file with the value of the creation date in the WIP index:

```
< AFEWIP2ArchiveRecord >
    RunDate = CreateTime,X
```

If you follow the guidelines above, the system will behave as described here:

- When the GenTrn program runs, the value in the RunDate field for each transaction is read from the extract file and copied into the TRNFILE.

- When the GenData program runs, it uses the value in the RunDate field in the TRNFILE for each transaction and loads the appropriate resources from the library.

- When the GenPrint program runs, it uses the value in the RunDate field, if necessary, in the recipient batch files for each transaction.

- When the GenArc program runs, it copies the value in the RunDate field from the NEWTRN file into the APPIDX file, using the RunDate option in the Trigger2Archive control group.

- When you archive a form set in Documaker Workstation, the value in the CreateTime field is converted from hexadecimal format to D4 format (YYYYMMDD) and copied into the APPIDX file.

  When you retrieve that form set, the value in the CreateTime field that was saved into the APPIDX file can be used to load objects, such as FAP files and logos, from the library as required to reconstruct the form set.

Keep in mind the run date should be in D4 format, which is YYYYMMDD. If your run date is not in D4 format, you can convert it using additional INI options.

To make sure the value in the RunDate field is part of the TRNDFDFL.DFD, RCBDFDFL.DFD, and APPIDX.DFD files, make sure these DFD files contain entries for the RunDate field, as shown below. The DFD files shipped with your system contain similar entries. DFD files are generally stored in the \DEFLIB directory. In each of these DFD files, you should have an entry for the RunDate field and an entry that describes the attributes of the RunDate field. These entries will look similar to those shown here:

```
< Fields >
    FieldName       = RunDate
< FIELD:RunDate >
    EXT_Type        = CHAR_ARRAY
    EXT_Length      = 8
    EXT_Precision   = 0
    INT_Type        = CHAR_ARRAY
    INT_Length      = 8
    INT_Precision   = 0
    Key             = No
    Required        = Yes
```

If you did not place the RunDate field in the TRNDFDFL.DFD, RCBDFDFL.DFD, and APPIDX.DFD files, you can use the GetRunDate rule to get the current system date and use it as the RunDate for each transaction. Keep in mind that using the GetRunDate rule limits you to using the current date as the run date, which may not always be the date you want to use.

How It All Works

The following topics describe how Documaker software uses these concepts in everyday processing.

In Documaker Workstation

Entry

When you use Documaker Workstation (or PPS) to create a new form set or transaction, the current system date is used to note when the form set was created. This value is stored in the CreateTime field, which is equivalent to the RunDate field in Documaker RP.

You can change this date by clicking on the Effective Date control and choosing a different date from the calendar. You can hide the Effective Date control using this option:

```
< Control >
    ShowEffectiveDate  = No
```

The effective date specified — whether the current date or another date — is the date compared against the effective dates associated with the resources, such as FAP files and logos, pulled from the library.

Example 1 - Multiple versions, different effective dates

Say today's date is 10/25/2007 and the form set you are creating requires a form called *DEC PAGE*. The DEC PAGE form is comprised of these FAP files:

- Q1SNAM

- Q1MDC1

- Q1MDC2

- Q1MDC3

Assume the following versions of the Q1SNAM FAP are in the library:

Form set	Version	Revision	Effective Date
Q1SNAM	00001	00001	20070131
Q1SNAM	00001	00002	20070731
Q1SNAM	00002	00001	20071231

Since the run date is 20071025 (10/25/2007), Studio chooses version 00001, revision 00002 (version 1.2) of Q1SNAM because it has an effective date (20070731) and that is the latest date that does not exceed the run date (20071025).

NOTE: This example shows two revisions, 1.1 and 1.2, of version 1 which contain different effective dates. Though Documaker 10.2 and higher enforce the rule that all revisions of a particular version of a resource must have the same effective date, if you have migrated a library from a prior version, your library may contain resources that do not adhere to this restriction. This situation will not cause errors.

Example 2 - Multiple versions, same effective dates

Say today's date is 10/25/2007 and the form set you are creating requires a form called *DEC PAGE.* The DEC PAGE form is comprised of these FAP files:

- Q1SNAM

- Q1MDC1

- Q1MDC2

- Q1MDC3

Assume the following versions of the Q1SNAM FAP are in the library:

Form set	Version	Revision	Effective Date
Q1SNAM	00001	00001	20070731
Q1SNAM	00001	00002	20070731
Q1SNAM	00001	00003	20070731
Q1SNAM	00002	00001	20071231

The run date is 20071025 (10/25/2007), so the latest effective for Q1SNAM that does not exceed the run date is 20070731. There are three version/revisions of Q1SNAM that have the most correct effective date, versions 1.1, 1.2, and 1.3. Studio chooses version 1.3 because it has the highest version/revision number.

Sometimes, you might create a form set and decide to base that new form set on an older one from archive. To do this, you first choose the New, Retrieve Data option to select the form set from archive. By default, the new form set would consist of the same version/revisions of the forms from the archived form set.

If, instead, you want the new form set to be comprised of the same forms as the archived form set, but with newer versions/revisions of those forms — if they exist — you must use this INI option:

```
< FormSelection >
    RetrieveVersionInfo = No
```

WIP When you save a form set to WIP (by choosing File, Save or WIP, Save), the system writes a record to the WIP index table and two WIP data files are written to the \WIP directory. By default, the WIP index table is named *WIP* and is composed of these files:

- WIP.DBF

- WIP.MDX

The two WIP data files written to the \WIP directory are essentially an NAFILE and a POLFILE. These two files may be named something like:

```
D4234FF15243414FB1B504379EC76D0D.dat   (this is the NAFILE)
D4234FF15243414FB1B504379EC76D0D.pol   (this is the POLFILE)
```

Prior to version 10.2 of Documaker Workstation, the WIP data files had names such as:

```
00000001.dat    (this is the NAFILE)
00000001.pol    (this is the POLFILE)
```

If you migrated to version 10.2 of Documaker Workstation from a prior version and have a WIP index (WIP.DBF and WIP.MDX), your WIP data files have the shorter names. Depending on the configuration, the resources in the NAFILE.DAT file may have version, revision, and effective date information in the \NA=... record. Here is an example:

```
\NA=q1snam,LN=1,DUP=OFF,SIZE=C,TRAY=U,X=0,Y=0,PA=1,OPT=D\
\ENDIMAGE\

\NA=q1mdc1,LN=1,DUP=OFF,SIZE=C,TRAY=U,X=0,Y=3360,PA=1,OPT=DS,V=1,R=
1,D=20020911\
ENDIMAGE\
```

Notice the \NA=q1mdc1... record contains these options and values:

- V=1

- R=1

- D=20020911

These values represent the specific version, revision, and effective date of Q1MDC1, pulled from the library when this form set was created. Notice that the \NA=q1snam... record does not contain these values.

After saving this form set to WIP, you might later return to retrieve this form set. When reconstructing the form set, for those images listed in the NAFILE.DAT file that contain the V, R, and D options and values, the system retrieves the specific version and revision of the image listed.

For those images listed in the NAFILE.DAT file that do not contain the V, R, and D options, Documaker Workstation gets a run date and uses that date to retrieve the correct version/revision of the images. Documaker Workstation gets its run date by looking for a value in these locations:

- The RunDate field in the WIP index

- The CreateTime field in the WIP index

- The current system date

If the RunDate field does not exist or is empty, Documaker Workstation looks in the CreateTime field. If the CreateTime field does not exist or is empty, it uses the current system date.

Archive and retrieval

When a form set is archived, its NAFILE and POLFILE contents are stored in an archive file or table (called a CARFile — Compressed Archive File) and some (or all) of the information that was in the WIP index (if it was archived from WIP) or in the NEWTRN file (if it was archived using the GenArc program) is stored into the application index (APPIDX) table. One of the fields in the APPIDX table is called *RunDate*.

You can retrieve a form set from archive in Documaker Workstation by choosing the Retrieve, Formset option. When reconstructing the form set, for those images listed in the NAFILE file that contain the V, R, and D options and values, the system retrieves the specific version and revision of the image that is listed.

For those images listed in the NAFILE that do not contain the V, R, and D options, Documaker Workstation gets a run date and uses that date to retrieve the correct version/revision of the images. Documaker Workstation gets its run date by looking for a value in these locations:

- The RunDate field in the application index (APPIDX)

- The CreateTime field in the application index

- The current system date

If the RunDate field does not exist or is empty, Documaker Workstation looks in the CreateTime field. If the CreateTime field does not exist or is empty, it uses the current system date.

In Documaker Server

The GenData and GenPrint programs in Documaker Server will generally need to load resources (such as FAP files, LOG files, and DAL scripts). To retrieve the resource with the appropriate effective date, the system needs to know the run date for each form set to be generated.

The GenTrn program gets the run date from the extract file, for each transaction and writes the run date to the TRNFILE.

The GenData program gets the run date from a Global Variable Manager (GVM) variable named *RunDate*. The RunDate GVM is set by:

- a value in the TRNFILE file or

- the GetRunDate rule, which copies the current system date into the RunDate GVM

As the GenData program processes transactions, the run date is written to the NEWTRN file and to the recipient batch files, provided the TRNDFDFL.DFD and RCBDFDFL.DFD files contain the RunDate field.

The GenPrint program reads the NAFILE, POLFILE, and recipient batch files. When it needs to load a resource referenced in the NAFILE, such as a FAP or logo file, it asks for the specific version and revision of the resource if those values are listed in the NAFILE.

For example, in this NAFILE excerpt:

```
\NA=q1snam,LN=1,DUP=OFF,SIZE=C,TRAY=U,X=0,Y=0,PA=1,OPT=D\
\ENDIMAGE\
\NA=q1mdc1,LN=1,DUP=OFF,SIZE=C,TRAY=U,X=0,Y=3360,PA=1,OPT=DS,V=1,R=
1,D=20070911\
\ENDIMAGE\
```

The Q1MDC1 FAP file contains these options:

- V=1

- R=1

- D=20070911

These options and values represent version 1, revision 1 (1.1) and an effective date of 9/11/2007. If the GenPrint program needs to load Q1MDC1, it asks for version 1.1 of this file.

On the other hand, for Q1SNAM, the V, R, and D options and values do not exist in the NAFILE, so if the GenPrint program needs to load this file, the system uses the run date specified in the recipient batch file to determine the correct version and revision of the FAP file to retrieve.

In Docupresentment (IDS)

When you use the Documaker Bridge to retrieve archived form sets, you can also use library management to retrieve the correct version and revision of any objects, such as FAP and logo files, referenced in the form set.

To configure Docupresentment to use library management, follow these steps:

1   For each request type in the DOCSERV.INI file you want to use, specify the DPRInitLby rule in the rules list. Here is an example of how you can use the DPRInitLby rule and its location in the rule list for the PRT request type:

```
[ ReqType:PRT ]
function = atcw32->ATCLogTransaction
function = atcw32->ATCLoadAttachment
function = dprw32->DPRSetConfig
function = dprw32->DPRInitLby
function = atcw32->ATCUnloadAttachment
function = dprw32->DPRRetrieveFormset
function = dprw32->DPRPrint
function = dprw32->DPRProcessTemplates
```

2   For each configuration you want to use, specify the library name in that configuration's INI file. For example, if you are using the RPEX1 configuration, you would specify options similar to these in the RPEX1.INI file:

```
< MasterResource >
    FormFile = master.lby
    LogoFile = master.lby
    DALFile  = master.lby
    LbyLib   = e:\fap\mstrres\rpex1\deflib\
```

The FormFile, LogoFile, and DALFile options name the library and the LbyLib option names the location of the library.

3   Set the ARCEFFECTIVEDATE attachment variable before calling any rules that use the library, such as DPRRetrieveFormset. Refer to the SDK Reference to determine which rules use the ARCEFFECTIVEDATE attachment variable.

The ARCEFFECTIVEDATE attachment variable is used by the Documaker Bridge to locate the appropriate version/revision of a resource if a specific version/revision is not indicated in the retrieved NAFILE. If you are using the Docupresentment CGI client, you can set the ARCEFFECTIVEDATE by specifying the following in the appropriate HTML templates:

```
<FORM METHOD="POST" ACTION="#EXENAME,#">
<INPUT NAME="USERID" VALUE="#USERID,%s#" TYPE="HIDDEN">
<INPUT NAME="DOCTYPE" VALUE="#DOCTYPE,%s#" TYPE="HIDDEN">
<INPUT NAME="REQTYPE" VALUE="PRT" TYPE="HIDDEN">
<INPUT NAME="CONFIG" VALUE="#CONFIG,%s#" TYPE="HIDDEN">
<INPUT NAME="ARCEFFECTIVEDATE" VALUE="#RUNDATE,%s#" TYPE="HIDDEN">
<-- sets the ARCEFFECTIVEDATE attachment variable
```

This copies the value of the RunDate attachment variable into the ARCEFFECTIVEDATE attachment variable. The RunDate attachment variable comes from the RunDate field of the archive application index (APPIDX) file. See Understanding Run Dates on page 181 to see how to make sure the APPIDX RunDate field is populated correctly.

MANAGING WORKFLOW

You can also manage the development, testing, and promotion of resources. Using one or more libraries, you can coordinate the creation and modification of image (FAP), logo (LOG), and DAL script files. Locking of resources as they are checked out, prevents multiple users from trying to change a particular resource at the same time. Prior versions of a resource are kept safe and can be restored if necessary.

As you test resources checked into a library, you can mark the resources as having passed or failed using the Status field on the File Information window. You can also promote them to another library for additional testing or for production use.

CREATING LIBRARIES

The way you create a resource library differs depending on how the library is stored. You have these choices:

USING XBASE AND CARFILES

You can use the xBase or CARFile format for the library on Windows, AIX, Solaris, and Linux operating systems. By default, a Documaker library is stored in this file format:

- The index portion is stored as a xBase file (actually two files)

- The data portion is stored in a compressed file format referred to as a *CARFile*

The default library name is *MASTER.LBY*. Using this name, the system creates these files:

File	Description
MASTER.DBF	The DBF and MDX files make up the index portion of the library. The DBF component contains the index data and the MDX component contains tag information.
MASTER.MDX	The DBF and MDX files make up the index portion of the library. The DBF component of the index contains the index data and the MDX component contains tag information.
MASTER.LBY	The LBY file makes up the data portion of the library. This file contains the actual resources the index refers to. This file is in a compressed archive file (CARFile) format.

Creating the CARFile and Index Files

On Windows, AIX, Solaris, and Linux

If you are using the xBase/CARFile format for the library index and data, Studio can create the library index and data files.

Sample INI options

Use INI options like the following to create a library in a CARFile format (index in xBase format) and to load resources from that library:

```
< MasterResource >
    BDFFile     = master.lby
    DALFile     = master.lby
    DDTFile     = master.lby
    FORFile     = master.lby
    FormFile    = master.lby
    GRPFile     = master.lby
    LbyLib      = ..\mstrres\deflib\
    LogoFile    = master.lby
< LibraryManager >
    LbyLogFile = lbylog
```

Option	Description
MasterResource control group	
BDFFile	This option tells the system you want to retrieve business definition (BDF) resources from a library named MASTER.LBY.
DALFile	This option tells the system you want to retrieve DAL scripts and DAL script libraries from a library named *MASTER.LBY*.
DDTFile	This option tells the system you want to retrieve DDT files from a library named *MASTER.LBY*.
FORFile	This option tells the system you want to retrieve form (FOR) resources from a library named MASTER.LBY.
FormFile	This option tells the system you want to retrieve FAP files from a library named *MASTER.LBY*.
GRPFile	This option tells the system you want to retrieve group form (GRP) resources from a library named MASTER.LBY.
LbyLib	This option tells the system that the MASTER.LBY file and the two files that make up its index (MASTER.DBF and MASTER.MDX), reside in the location specified by the relative path *..\mstrres\deflib*.
LogoFile	This option tells the system you want to retrieve LOG (logo) files from a library named *MASTER.LBY*.
LibraryManager control group	
LbyLogFile	This option tells the system the name of the library log file is *LBYLOG*. The library log contains information about resources added to, deleted from, or updated in the library. The library log file does not have to use the same type of database handler as the library index and data portions.

USING THE DB2 NATIVE DRIVER

You can use the DB2 native driver — using DB2 but not going through ODBC — with the Windows, AIX, Solaris, Linux, and OS390 operating systems.

Creating the Database and Tables

On Windows, AIX, Solaris, and Linux

On Windows, AIX, Solaris, and Linux you can have the LBRYMGR utility create the library index, data and catalog tables or you can create them beforehand. To tell the LBRYMGR utility to create the library and catalog tables, specify this INI option:

```
< DBHandler:DB2 >
   CreateTable = Yes
```

NOTE: For more information about the LBRYMGR utility, see the Docutoolbox Reference.

To create the DB2 library and catalog tables manually, execute an SQL script like the one provided with the RPEX1 sample resources in this directory:

```
..rpex1\deflib\db2\lbysqlr.cmd
```

This file is also listed below:

```
CONNECT TO LBYLIB;


          ------------------------------------------------
          -- DDL Statements for table "DAP110_CAT_R1"
          ------------------------------------------------

           CREATE TABLE "DAP110_CAT_R1"  (
                        "CATALOGID" CHAR(10) ,
                        "CARFILE" CHAR(8) ,
                        "MEDIAID" CHAR(11) ,
                        "STATUS" CHAR(1) )
                       IN "USERSPACE1" ;


          ------------------------------------------------
          -- DDL Statements for table "DAP110_LBYI_R1"
          ------------------------------------------------

           CREATE TABLE "DAP110_LBYI_R1"  (
                        "FILETYPE" CHAR(3) ,
                        "FILESTYP" CHAR(3) ,
                        "FILENAME" CHAR(100) ,
                        "RESOURCE" CHAR(25) ,
                        "DESCRIPT" CHAR(100) ,
                        "EFFECTIV" CHAR(10) ,
                        "MODIFYTM" CHAR(10) ,
                        "FILEINDX" CHAR(8) ,
                        "RECSTAT" CHAR(3) ,
                        "VERSION" CHAR(5) ,
                        "REVISION" CHAR(5) ,
                        "USERID" CHAR(64) ,
                        "USRLEVL" CHAR(2) ,
```

```
                                          "PASSWD" CHAR(64) ,
                                          "UNIQUE_ID" CHAR(26) ,
                                          "ARCKEY" CHAR(18) ,
                                          "MODE" CHAR(25) ,
                                          "STATUS" CHAR(25) ,
                                          "CLASS" CHAR(25) ,
                                          "PROJECT" CHAR(25) )
                                  IN "USERSPACE1" ;



                    ------------------------------------------------
                    -- DDL Statements for table "DAP110_LBYD_R1"
                    ------------------------------------------------

                     CREATE TABLE "DAP110_LBYD_R1"  (
                                          "ARCKEY" CHAR(18) ,
                                          "SEQ_NUM" CHAR(5) ,
                                          "CONT_FLAG" CHAR(1) ,
                                          "TOTAL_SIZE" INTEGER ,
                                          "CARDATA" LONG VARCHAR FOR BIT DATA )
                                  IN "USERSPACE1" ;



                    COMMIT WORK;


                    CONNECT RESET;


                    TERMINATE;
```

If you manually create the DB2 tables by running using this script, set the CreateTable option to No when you later run Documaker RP. Here is an example:

```
    < DBHandler:DB2 >
       CreateTable = No
```

On OS390   On OS390, run the job located in FSI.V110.JCLLIB(LBYSQLR) to create the library index, data, and catalog tables. This job also creates the library log (LBYLOG) table, which contains entries of items that are added to, deleted from, or updated in the library.

Sample INI Options

Here is an example of how you can set up your INI options to use the DB2 native driver to load resources from a library defined in DB2:

```
< MasterResource >
    BDFFile    = LBYI
    DALFile    = LBYI
    DDTFile    = LBYI
    FORFile    = LBYI
    FormFile   = LBYI
    GRPFile    = LBYI
    LogoFile   = LBYI
< LibraryManager >
    LBYLogFile = LBYLOG
< Library:LBYI >
    DBTable    = LBYD
< DBTable:LBYI >
    DBHandler  = DB2
< DBTable:LBYD >
    DBHandler  = DB2
    UniqueTag  = ARCKEY+SEQ_NUM
< DBTable:LBYLOG >
    DBHandler  = DB2
< DBTable:CATALOG >
    DBHandler  = DB2
    UniqueTag  = CATALOGID
< DBHandler:DB2 >
    Class      = DB2
    CreateIndex= No
    CreateTable= Yes
    Database   = LBYDBASE
    Debug      = No
    Passwd     = password
    UserID     = userID
< DB2_FileConvert >
    LBYI       = DAP110_LBYI_R1
    LBYD       = DAP110_LBYD_R1
    LBYLog     = DAP110_LBYLOG_R1
```

Option	Description
MasterResource control group	
BDFFile	This option tells the system you want to retrieve business definition (BDF) resources from a library named *LBYI*.
DALFile	This option tells the system you want to retrieve DAL scripts and DAL script libraries from a library named *LBYI*.
DDTFile	This option tells the system you want to retrieve DDT files from a library named *LBYI*.
FORFile	This option tells the system you want to retrieve form (FOR) resources from a library named *LBYI*.

Option	Description
FormFile	This option tells the system you want to retrieve FAP files from a library named *LBYI*.
GRPFile	This option tells the system you want to retrieve group form (GRP) resources from a library named *LBYI*.
LogoFile	This option tells the system you want to retrieve LOG (logo) files from a library named *LBYI*.

LibraryManager control group

LbyLogFile	This option tells the system the name of the library log file is *LBYLOG*. The library log contains information about resources added to, deleted from, or updated in the library. The LbyLogFile does not have to use the same type of database handler as the library index and data portions.

Library:LBYI control group

DBTable	This option tells the system the data component of the library named *LBYI* is called *LBYD*. In this example, the names LBYI and LBYD have been chosen to emphasize that one table, LBYI, represents the library index and one table, LBYD represents the library data. You can call these tables any name you like but the name cannot exceed eight characters. See the DB2_FileConvert control group if you need to map these eight-character names to longer table names.

DBTable:LBYI control group

DBHandler	This option tells the system to access the table known as *LBYI* using the database handler named *DB2*. Based on this option, the system expects to find a control group named *DBHandler:DB2*.

DBTable:LBYD control group

DBHandler	This option tells the system to access the table known as *LBYD* using the database handler named *DB2*. Based on this option, the system expects to find a control group named *DBHandler:DB2*.
UniqueTag	This option tells the system the columns ARCKEY and SEQ_NUM can be combined to represent a unique tag for the table. This unique tag is only used for internal purposes. If you do not specify a unique tag for this table, and a column with the name UNIQUE_ID does not exist within the table, you receive warning messages indicating no unique tag is defined. Include this value to avoid those warning messages.

DBTable:LBYLOG control group

DBHandler	This option tells the system to access the table known as *LBYLOG* using the database handler named *DB2*. Based on this option, the system expects to find a control group named *DBHandler:DB2*.

DBTable:CATALOG control group

Option	Description
DBHandler	This option tells the system to access the table known as *CATALOG* using the database handler named *DB2*. The CATALOG table temporarily stores the CATALOGID values used to construct an ARCKEY.
UniqueTag	This option tells the system the column CATALOGID represents a unique tag for this table. This unique tag is only used for internal purposes. If you do not specify a unique tag for this table, and a column with the name UNIQUE_ID does not exist within the table, you receive warning messages indicating there is no unique tag defined. Include this value to avoid those warning messages.

DBHandler:DB2 control group

Option	Description
Class	This option tells the system this database handler represents a handler for IBM's DB2 database management system. The Class option is unnecessary if the name of the handler (DB2 in this case) matches one of the Documaker pre-defined values, such as DB2, ODBC, ORA, or DMS.
CreateIndex	This option tells the system not to create database indexes. This option should *always* be set to No.
CreateTable	This option tells the system to create any missing required tables at run time.
Database	This option tells the system the name of the database for this database handler is *LBYDBASE*.
Debug	This turns off tracing for the Documaker DB2 database handler. Normally you would omit the Debug option or set it to No. In troubleshooting situations, set this option to Yes and examine the trace messages written to the trace file.
Passwd	This option tells the system the password to use when connecting to the database management system.
UserID	This option tells the system the user ID to use when connecting to the database management system.

DB2_FileConvert control group

Option	Description
LBYI	This option tells the system the table referenced in INI options as LBYI is really named *DAP110_LBYI* on the database management system. This control group lets you map table names of eight characters or less to table names longer than eight characters. The table name you specify must adhere to the table naming conventions for the database management system.
LBYD	This option tells the system the table referenced in INI options as *LBYD* is really named *DAP110_LBYI* on the database management system.
LBYLog	This option tells the system the table referenced in INI options as *LBYI* is really named *DAP110_LBYI* on the database management system.

Using the DB2 ODBC Driver

You can use the DB2 ODBC driver on the Windows operating system.

Creating the Database and Tables

You can let the LBRYMGR utility create the library index, data, and catalog tables or you can create them beforehand. To have the LBRYMGR utility create the library and catalog tables, specify this INI option:

```
< DBHandler:DB2 >
   CreateTable = Yes
```

NOTE: For more information about the LBRYMGR utility, see the Docutoolbox Reference.

To create the DB2 library and catalog tables manually, execute an SQL script like the one provided with the RPEX1 sample resources in this directory:

```
..rpex1\deflib\db2\lbysqlr.cmd
```

This file is also listed below:

```
CONNECT TO LBYLIB;


              -----------------------------------------------
              -- DDL Statements for table "DAP110_CAT_R1"
              -----------------------------------------------


               CREATE TABLE "DAP110_CAT_R1"  (
                              "CATALOGID" CHAR(10) ,
                              "CARFILE" CHAR(8) ,
                              "MEDIAID" CHAR(11) ,
                              "STATUS" CHAR(1) )
                             IN "USERSPACE1" ;


              -----------------------------------------------
              -- DDL Statements for table "DAP110_LBYI_R1"
              -----------------------------------------------


               CREATE TABLE "DAP110_LBYI_R1"  (
                              "FILETYPE" CHAR(3) ,
                              "FILESTYP" CHAR(3) ,
                              "FILENAME" CHAR(100) ,
                              "RESOURCE" CHAR(25) ,
                              "DESCRIPT" CHAR(100) ,
                              "EFFECTIV" CHAR(10) ,
                              "MODIFYTM" CHAR(10) ,
                              "FILEINDX" CHAR(8) ,
                              "RECSTAT" CHAR(3) ,
                              "VERSION" CHAR(5) ,
                              "REVISION" CHAR(5) ,
                              "USERID" CHAR(64) ,
                              "USRLEVL" CHAR(2) ,
                              "PASSWD" CHAR(64) ,
```

```
                            "UNIQUE_ID" CHAR(26) ,
                            "ARCKEY" CHAR(18) ,
                            "MODE" CHAR(25) ,
                            "STATUS" CHAR(25) ,
                            "CLASS" CHAR(25) ,
                            "PROJECT" CHAR(25) )
                         IN "USERSPACE1" ;


            ----------------------------------------------
            -- DDL Statements for table "DAP110_LBYD_R1"
            ----------------------------------------------

             CREATE TABLE "DAP110_LBYD_R1"  (
                            "ARCKEY" CHAR(18) ,
                            "SEQ_NUM" CHAR(5) ,
                            "CONT_FLAG" CHAR(1) ,
                            "TOTAL_SIZE" INTEGER ,
                            "CARDATA" LONG VARCHAR FOR BIT DATA )
                         IN "USERSPACE1" ;


       COMMIT WORK;

       CONNECT RESET;

       TERMINATE;
```

If you manually create the DB2 tables by running using this script, set the CreateTable option to No when you later run Documaker RP. Here is an example:

```
< DBHandler:ODBC >
   CreateTable = No
```

Sample INI Options

Use INI options like the following to create a library in DB2, using the DB2 ODBC driver, and to load resources from that library:

```
< MasterResource >
    BDFFile    = LBYI
    DALFile    = LBYI
    DDTFile    = LBYI
    GRPFile    = LBYI
    FORFile    = LBYI
    FormFile   = LBYI
    LogoFile   = LBYI
<LibraryManager>
    LBYLogFile = LBYLOG
< Library:LBYI >
    DBTable    = LBYD
< DBTable:LBYI >
    DBHandler  = ODBC
< DBTable:LBYD >
    DBHandler  = ODBC
    UniqueTag  = ARCKEY+SEQ_NUM
< DBTable:LBYLOG >
    DBHandler  = ODBC
< DBTable:CATALOG >
    DBHandler  = ODBC
    UniqueTag  = CATALOGID
< DBHandler:ODBC >
    Class      = ODBC
    CreateIndex= No
    CreateTable= Yes
    Debug      = No
    Passwd     = password
    Qualifier  = LBYDBASE
    Server     = LBYDB2
    UserID     = userID
< ODBC_FileConvert >
    LBYI       = DAP110_LBYI_R1
    LBYD       = DAP110_LBYD_R1
    LBYLog     = DAP110_LBYLOG_R1
```

Option	Description
MasterResource control group	
BDFFile	This option tells the system you want to retrieve business definition (BDF) resources from a library named *LBYI*.
DALFile	This option tells the system you want to retrieve DAL scripts and DAL script libraries from a library named *LBYI*.
DDTFile	This option tells the system you want to retrieve DDT files from a library named *LBYI*.
FORFile	This option tells the system you want to retrieve form (FOR) resources from a library named *LBYI*.

Option	Description
FormFile	This option tells the system you want to retrieve FAP files from a library named *LBYI*.
GRPFile	This option tells the system you want to retrieve group form (GRP) resources from a library named *LBYI*.
LogoFile	This option tells the system you want to retrieve LOG (logo) files from a library named *LBYI*.

LibraryManager control group

LbyLogFile	This option tells the system the name of the library log file is *LBYLOG*. The library log contains information about resources added to, deleted from, or updated in the library. The LbyLogFile does not have to use the same type of database handler as the library index and data portions.

Library:LBYI control group

DBTable	This option tells the system the data component of the library named *LBYI* is called *LBYD*. In this example, the names LBYI and LBYD have been chosen to emphasize that one table, LBYI, represents the library index and one table, LBYD represents the library data.
	You can call these tables any name you like but the name must be eight characters or less. See the ODBC_FileConvert control group to map these eight-character names to longer table names.

DBTable:LBYI control group

DBHandler	This option tells the system to access the table known as *LBYI* using the database handler named *ODBC*. Based on this option, the system expects to find a control group named *DBHandler:ODBC*.
	Microsoft's SQL Server is an ODBC-compliant database.

DBTable:LBYD control group

DBHandler	This option tells the system to access the table known as *LBYD* using the database handler named *ODBC*. Based on this option, the system expects to find a control group named *DBHandler:ODBC*.
UniqueTag	This option tells the system the columns ARCKEY and SEQ_NUM can be combined to represent a unique tag for the table. This unique tag is only used for internal purposes.
	If you do not specify a unique tag for this table, and a column with the name UNIQUE_ID does not exist, you receive warning messages indicating no unique tag is defined. Include this option to avoid those warning messages.

DBTable:LBYLOG control group

DBHandler	This option tells the system to access the table known as *LBYLOG* using the database handler named *ODBC*. Based on this option, the system expects to find a control group named *DBHandler:ODBC*

DBTable:CATALOG control group

Option	Description
DBHandler	This option tells the system to access the table known as *CATALOG* using the database handler named *ODBC*. The CATALOG table temporarily stores the CATALOGID values used to construct an ARCKEY.
UniqueTag	This option tells the system the column CATALOGID represents a unique tag for this table. This unique tag is only used for internal purposes. If you do not specify a unique tag for this table, and a column with the name UNIQUE_ID does not exist within the table, you receive warning messages indicating no unique tag is defined. Include this option to avoid those warning messages.

DBHandler:ODBC control group

Option	Description
Class	This option tells the system this database handler represents a handler for Microsoft's Open Data Base Connectivity (ODBC) standard. The Class parameter is unnecessary if the name of the handler, *ODBC* in this case, matches one of the Documaker pre-defined values, such as DB2, ODBC, ORA, or DMS.
CreateIndex	This option tells the system not to create database indexes. This option should *always* be set to No.
CreateTable	This option tells the system that if a table needed by the system does not exist, to create it.
Debug	This option turns off tracing for the Documaker ODBC database handler. Normally you should omit the Debug option or set it to No. In troubleshooting situations, set this option to Yes and examine the trace messages that are written to the trace file.
Passwd	This option tells the system the password to use when connecting to the database management system.
Qualifier	This option tells the system that the name of the database for this database handler is *LBYDBASE*. If you omit this option, the system uses the database set up as the default database for the LBYDB2 ODBC data source.
Server	This option tells the system the name of the ODBC data source for this database handler is *LBYDB2*. You will need to have defined an ODBC data source by this name.
UserID	This option tells the system the user ID to use when connecting to the database management system.

ODBC_FileConvert

Option	Description
LBYI	This option tells the system the table referenced in INI options as LBYI is really named *DAP110_LBYI* on the database management system. This control group lets you map table names of eight characters or less to table names longer than eight characters. The table name you specify must adhere to the table naming conventions for the database management system.

Option	Description
LBYD	This option tells the system the table referenced in INI options as *LBYD* is really named *DAP110_LBYI* on the database management system.
LBYLog	This option tells the system the table referenced in INI options as *LBYI* is really named *DAP110_LBYI* on the database management system.

USING THE SQL SERVER ODBC DRIVER

You can use the SQL Server ODBC driver on Windows.

Creating the Database and Tables

On Windows, you can use Studio to create the library index and data files. You can also use the LBRYMGR utility do it.

NOTE: For more information about the LBRYMGR utility, see the Docutoolbox Reference.

Sample INI Options

Use INI options like the following to create a library in SQL Server, using the SQL Server ODBC driver, and to load resources from that library:

```
< MasterResource >
   BDFFile     = LBYI
   DALFile     = LBYI
   DDTFile     = LBYI
   FORFile     = LBYI
   FormFile    = LBYI
   GRPFile     = LBYI
   LogoFile    = LBYI
< LibraryManager >
   LBYLogFile = LBYLOG
< Library:LBYI >
   DBTable     = LBYD
< DBTable:LBYI >
   DBHandler   = ODBC
< DBTable:LBYD >
   DBHandler   = ODBC
   UniqueTag   = ARCKEY+SEQ_NUM
< DBTable:LBYLOG >
   DBHandler   = ODBC
< DBTable:CATALOG >
   DBHandler   = ODBC
   UniqueTag   = CATALOGID
< DBHandler:ODBC >
   CreateIndex = No
   CreateTable= Yes
   Debug       = No
   Passwd      = password
   Qualifier   = LBYDBASE
   Server      = LBYSQL
   UserID      = userID
< ODBC_FileConvert >
   LBYI        = DAP110_LBYI
   LBYD        = DAP110_LBYD
   LBYLog      = DAP110_LBYLOG
```

Option	Description
MasterResource control group	
BDFFile	This option tells the system you want to retrieve Business Definition (BDF) resources from a library named *LBYI*.
DALFile	This option tells the system you want to retrieve DAL scripts and DAL script libraries from a library named *LBYI*.
DDTFile	This option tells the system you want to retrieve DDT files from a library named *LBYI*.
FORFile	This option tells the system you want to retrieve form (FOR) resources from a library named *LBYI*.
FormFile	This option tells the system you want to retrieve FAP files from a library named *LBYI*.
GRPFile	This option tells the system you want to retrieve group form (GRP) resources from a library named *LBYI*.
LogoFile	This option tells the system you want to retrieve LOG (logo) files from a library named *LBYI*.
LibraryManager control group	
LbyLogFile	This option tells the system the name of the library log file is *LBYLOG*. The library log contains information about resources that are added to, deleted from, or updated in the library. The LbyLogFile does not have to use the same type of database handler as the library index and data portions.
Library:LBYI control group	
DBTable	This option tells the system the data component of the library named *LBYI* is called *LBYD*. In this example, the names LBYI and LBYD emphasize that one table, LBYI, represents the library index and one table, LBYD, represents the library data. You can call these tables any name you like but the name must be eight characters or less. See the ODBC_FileConvert control group to map these eight-character names to longer table names.
DBTable:LBYI control group	
DBHandler	This option tells the system to access the table known as *LBYI* using the database handler named *ODBC*. Because of this INI value, the system later expects to find a control group named *DBHandler:ODBC*. Microsoft's SQL Server is an ODBC-compliant database.
DBTable:LBYD control group	
DBHandler	This option tells the system to access the table known as *LBYD* using the database handler named *ODBC*. Because of this INI value, the system later expects to find a control group named *DBHandler:ODBC*.

Option	Description
UniqueTag	This option tells the system the columns ARCKEY and SEQ_NUM can be combined to represent a unique tag for the table. This unique tag is only used for internal purposes.
	If you do not specify a unique tag for this table, and a column with the name UNIQUE_ID does not exist within the table, you receive warning messages indicating no unique tag is defined. Include this option to avoid those warning messages.

DBTable:LBYLOG control group

Option	Description
DBHandler	This option tells the system to access the table known as *LBYLOG* using the database handler named *ODBC*. Because of this INI value, the system later expects to find an INI control group named *DBHandler:ODBC*.

DBTable:CATALOG control group

Option	Description
DBHandler	This option tells the system to access the table known as *CATALOG* using the database handler named *ODBC*. The CATALOG table is used to temporarily store CATALOGID values which are used to construct an ARCKEY.
UniqueTag	This option tells the system the column CATALOGID represents a unique tag for this table. This unique tag is only used for internal purposes.
	If you do not specify a unique tag for this table, and a column with the name UNIQUE_ID does not exist within the table, you receive warning messages indicating no unique tag is defined. Include this option to avoid those warning messages.

DBHandler:ODBC control group

Option	Description
Class	This option tells the system this database handler represents a handler for Microsoft's Open Data Base Connectivity (ODBC) standard.
	This option is unnecessary if the name of the handler (*ODBC* in this case) matches one of the Documaker pre-defined values such as, DB2, ODBC, ORA, or DMS.
Debug	This option turns off tracing for the Documaker ODBC database handler, which is the default. Normally you should omit the Debug option or set it to No.
	In troubleshooting situations, set this option to Yes and examine the messages written to the trace file.
CreateIndex	This option tells the system not to attempt to create database indexes (always set to No).
CreateTable	This option tells the system that if a table needed does not exist at run time, it should create it.
Passwd	This option tells the system the password to use when connecting to the database management system.
Qualifier	This option tells the system the name of the database for this database handler is *LBYDBASE*. If you omit this option, the database set up as the default database for the LBYSQL ODBC data source is used.

Option	Description
Server	This option tells the system the name of the ODBC data source for this database handler is *LBYSQL*. You must define an ODBC data source by this name.
UserID	This option tells the system the user ID to use when connecting to the database management system.

ODBC_FileConvert control group

LBYI	This option tells the system the table referenced in INI options as *LBYI* is really named *DAP110_LBYI* on the database management system.
	This control group lets you map table names of eight characters or less to table names longer than eight characters.
	The table name you specify must adhere to the table naming conventions for the database management system.
LBYD	This option tells the system the table referenced in INI options as *LBYD* is really named *DAP110_LBYI* on the database management system.
LBYLog	This option tells the system the table referenced in INI options as *LBYI* is really named *DAP110_LBYI* on the database management system.

USING THE ORACLE ODBC DRIVER

You can use the Oracle ODBC driver on Windows.

NOTE: You can have up to 32 SQL static variables.

Data Format Definition (DFD) Requirements

Sample CARFILE.DFD file

To use a library using the Oracle ODBC driver, you must use a Docucorp-supplied CARFILE.DFD file that differs from the standard (internal) DFD definition. The supplied CARFILE.DFD file is included in the sample RPEX1 resources in the directory:

```
..\DEFLIB\ODBC_ORA\CARFILE.DFD
```

The contents of the CARFILE.DFD file are listed below:

```
; CARFILE.DFD - use this DFD when referencing a library or archive
with the Oracle ODBC driver.
;
< Fields >
    FieldName = ARCKEY
    FieldName = SEQ_NUM
    FieldName = CONT_FLAG
    FieldName = TOTAL_SIZE
    FieldName = CARDATA
< Field:ARCKEY >
    INT_Type = CHAR_ARRAY
    INT_Length = 18
    EXT_Type = CHAR_ARRAY
    EXT_Length = 18
    Key = N
    Required = N
< Field:SEQ_NUM >
    INT_TYPE = CHAR_ARRAY
    INT_LENGTH = 5
    EXT_TYPE = CHAR_ARRAY
    EXT_LENGTH = 5
    KEY = N
    REQUIRED = N
< Field:CONT_FLAG >
    INT_TYPE = CHAR_ARRAY
    INT_LENGTH = 1
    EXT_TYPE = CHAR_ARRAY
    EXT_LENGTH = 1
    KEY = N
    REQUIRED = N
< Field:TOTAL_SIZE >
    INT_TYPE = LONG
    INT_LENGTH = 4
    EXT_TYPE = DOUBLE
    EXT_LENGTH = 4
    KEY = N
    REQUIRED = N
< Field:CARDATA >
```

```
          INT_TYPE = BLOB
          INT_LENGTH = 252
          EXT_TYPE = BLOB
          EXT_LENGTH = 252
          KEY = N
          REQUIRED = N
  < Keys >
          KEYNAME = ARCKEY
          KEYNAME = SEQ_NUM
          KEYNAME = CAR_KEY
  < Key:ARCKEY >
          EXPRESSION = ARCKEY+SEQ_NUM
          FIELDLIST = ARCKEY,SEQ_NUM
  < Key:SEQ_NUM >
          EXPRESSION = SEQ_NUM
          FIELDLIST = SEQ_NUM
  < Key:CAR_KEY >
          EXPRESSION = ARCKEY
          FIELDLIST = ARCKEY
```

To use the supplied CARFILE.DFD file, follow these steps:

1   Copy the CARFILE.DFD file into the directory where you store other DFD files
    (generally the \DEFLIB directory).

2   Tell the system to use the CARFILE.DFD file by adding this option to the INI file:

```
  < ArcRet >
      CARFileDFD = ..\DEFLIB\CARFILE.DFD
```

Creating the Database and Tables

On Windows, you can use Studio to create the library index and data files. You can also
use the LBRYMGR utility do it.

NOTE: For more information about the LBRYMGR utility, see the Docutoolbox
        Reference.

Sample INI Options

Use INI options like the following to create a library using the Oracle ODBC driver and
to load resources from that library:

```
  < MasterResource >
      BDFFile    = LBYI
      DALFile    = LBYI
      DDTFile    = LBYI
      FORFile    = LBYI
      FormFile   = LBYI
      GRPFile    = LBYI
      LogoFile   = LBYI
  < LibraryManager >
      LBYLogFile = LBYLOG
  < Library:LBYI >
```

```
         DBTable    = LBYD
   < DBTable:LBYI >
         DBHandler  = ODBC
   < DBTable:LBYD >
         DBHandler = ODBC
         UniqueTag = ARCKEY+SEQ_NUM
   < DBTable:LBYLOG >
         DBHandler = ODBC
   < DBTable:CATALOG >
         DBHandler = ODBC
         UniqueTag = CATALOGID
   < DBHandler:ODBC >
         CreateIndex = No
         CreateTable = Yes
         Debug       = No
         Passwd      = password
         Qualifier   = LBYDBASE
         Server      = LBYORA
         UserID      = userID
   < ODBC_FileConvert >
         LBYI        = DAP110_LBYI
         LBYD        = DAP110_LBYD
         LBYLog      = DAP110_LBYLOG
```

Option	Description
MasterResource control group	
BDFFile	This option tells the system you want to retrieve business definition (BDF) resources from a library named *LBYI*.
DALFile	This option tells the system you want to retrieve DAL scripts and DAL script libraries from a library named *LBYI*.
DDTFile	This option tells the system you want to retrieve DDT files from a library named *LBYI*.
FORFile	This option tells the system you want to retrieve form (FOR) resources from a library named *LBYI*.
FormFile	This option tells the system you want to retrieve FAP files from a library named *LBYI*.
GRPFile	This option tells the system you want to retrieve group form (GRP) resources from a library named *LBYI*.
LogoFile	This option tells the system you want to retrieve LOG (logo) files from a library named *LBYI*.
LibraryManager control group	
LbyLogFile	This option tells the system the name of the library log file is *LBYLOG*. The library log contains information about resources added to, deleted from, or updated in the library. The LbyLogFile does not have to use the same type of database handler as the library index and data portions.

Option	Description

Library:LBYI control group

DBTable	This option tells the system the data component of the library named *LBYI* is called *LBYD*. In this example, the names LBYI and LBYD emphasize that one table, LBYI, represents the library index and one table, LBYD represents the library data.
	You can call these tables anything you like but the name must be eight characters or less. Use the ODBC_FileConvert control group if you need to map these eight character names to longer table names.

DBTable:LBYI control group

DBHandler	This option tells the system to access the table known as *LBYI* using the database handler named *ODBC*. Because of this INI option, the system later expects to find a control group named *DBHandler:ODBC*.
	Microsoft's SQL Server is an ODBC-compliant database.

DBTable:LBYD control group

DBHandler	This option tells the system to access the table known as *LBYD* using the database handler named *ODBC*. Because of this INI option, the system later expects to find a control group named *DBHandler:ODBC*.
UniqueTag	This option tells the system the columns ARCKEY and SEQ_NUM can be combined to represent a unique tag for the table. This unique tag is only used for internal purposes.
	If you do not specify a unique tag for this table, and a column with the name UNIQUE_ID does not exist, you receive warning messages indicating no unique tag id defined. Include this option to avoid those warning messages.

DBTable:LBYLOG control group

DBHandler	This option tells the system to access the table known as *LBYLOG* using the database handler named *ODBC*. Based on this INI option, the system expects to find a control group named *DBHandler:ODBC*.

DBTable:CATALOG control group

DBHandler	This option tells the system to access the table known as *CATALOG* using the database handler named *ODBC*. The CATALOG table temporarily stores the CATALOGID values used to construct an ARCKEY.
UniqueTag	This option tells the system the column CATALOGID represents a unique tag for this table. This unique tag is only used for internal purposes.
	If you do not specify a unique tag for this table, and a column with the name UNIQUE_ID does not exist, you receive warning messages indicating no unique tag is defined. Include this option to avoid those warning messages.

DBHandler:ODBC control group

Option	Description
Class	This option tells the system this database handler represents a handler for Microsoft's Open Data Base Connectivity (ODBC) standard. This option is unnecessary if the name of the handler (ODBC in this case) matches one of the Documaker pre-defined values, such as DB2, ODBC, ORA, or DMS.
CreateIndex	This option tells the system not to attempt to create database indexes (always set to No).
CreateTable	This option tells the system that, if a table needed does not exist at run time, it should create it.
Debug	This option turns off tracing for the Documaker ODBC database handler, which is the default. Normally you should omit the Debug option or set it to No. In troubleshooting situations, set this option to Yes and examine the trace messages written to the trace file.
Passwd	This option tells the system the password to use when connecting to the database management system.
Qualifier	This option tells the system the name of the database for this database handler is *LBYDBASE*. If you omit this option, the system uses the database set up as the default database for the LBYORA ODBC data source.
Server	This option tells the system the name of the ODBC data source for this database handler is *LBYORA*. You must define an ODBC data source by this name.
UserID	This option tells the system the user ID to use when connecting to the database management system.

ODBC_FileConvert control group

Option	Description
LBYI	This option tells the system the table referenced in INI options as *LBYI* is really named *DAP110_LBYI* on the database management system. This control group lets you map table names of eight characters or less to table names longer than eight characters. The table name you specify must adhere to the table naming conventions for the database management system.
LBYD	This option tells the system the table referenced in INI options as *LBYD* is really named *DAP110_LBYI* on the database management system.
LBYLog	This option tells the system the table referenced in INI options as *LBYI* is really named *DAP110_LBYI* on the database management system.

USING DOCUMANAGE

Studio supports installable interfaces to alternate document management systems (DMS). The default DMS is the DAP archive system, but you can also use Documanage. To use Documanage, follow these steps:

NOTE: To store an 11.0 resource library in Documanage, you must have Documanage version 6.3 SR 2 or version 6.4 SR 1 or higher.

1   Create a table in an ODBC database. You can name the table anything you like. This example uses RPEX1LBY. Include in the table the following fields. All fields should be of the VARCHAR type:

Field	Description
GROUPID	varchar 128
RESOURCEID	varchar 104

This table maps to the internally-defined table for Studio. The table corresponds to a cabinet in the Documanage environment.
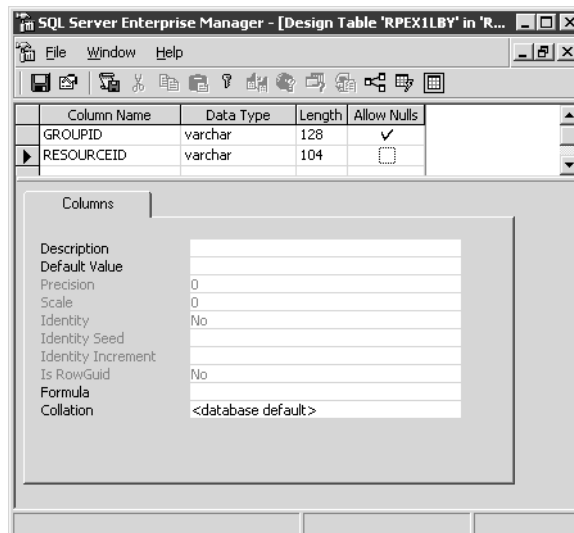
For performance reasons, it is best to add an index on the new table by GROUPID and RESOURCEID, as shown on the following window.

2   Set up an ODBC connection for this database using Data Sources (ODBC) in Administrative Tools in Windows 2000 Server. This lets Documanage Administrator recognize this database and table for *powermapping*.

3   Powermap the database table you created (RPEX1LBY in this example) using Documanage Administrator.

4   After you powermap the database table, edit the Business Data table to set the Part of Folder Key values to Yes for the GROUPID and RESOURCEID database fields.

Make sure these values are set to Yes.

5   Create a cabinet. The name of this cabinet (RPEX1LBY in this example) must be used in the FAPCOMP.INI file and other Documaker RP INI files that access the library from Documanage. To create the cabinet in Documanage Administrator, select Cabinet, File, New, and enter the name of your new cabinet (RPEX1LBY in this example).

On the Cabinet Definition window, select the table you powermapped from the Table list then select the Folder Properties tab and set the Editable values to Yes for the GROUPID, RESOURCEID, and UNIQUE_ID database fields.

Click here to select the table you powermapped

Once you define the cabinet, select Save, Release, and then Refresh Servers from the File menu.

6   Define a category called *DMRPLibrary* using the Documanage Administrator. Set up a storage location under the Storage tab. This is usually *DEFAULT/Permanent* or *Temporary*. Under the Sub-Categories tab, add these sub-categories:

·   BDF

·   DAL

·   DDT

·   FAP

·   FOR

·   GRP

·   LOG

·   XDD

Here is an example:
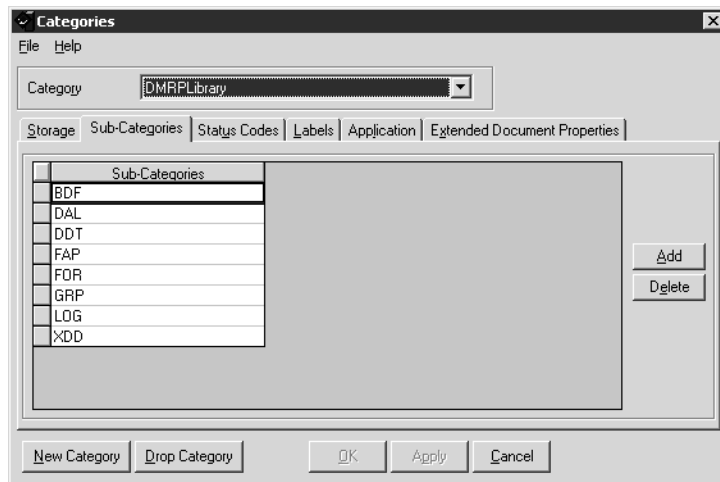
7   Next, select the category *DMRPLibrary*, click the Labels tab, and enter **Version** in the Keyword1 field and **Revision** in the Keyword2 field.
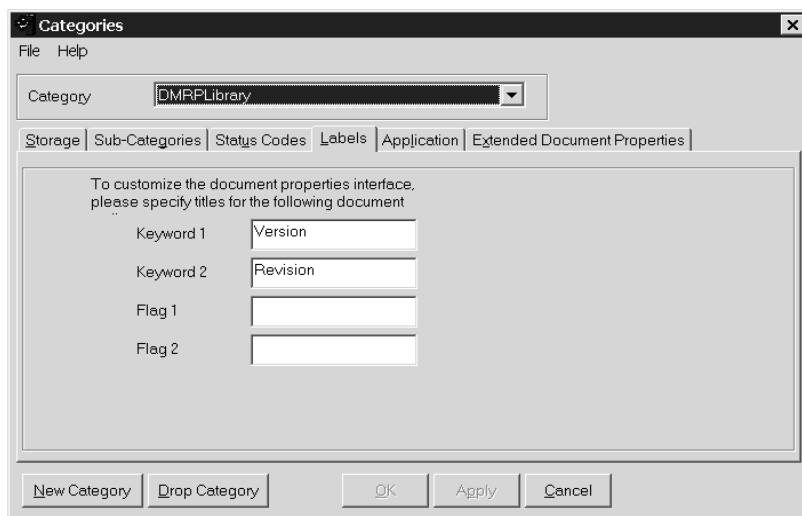
8   Next, select the category *DMRPLIbrary*, click on the Extended Document
     Properties tab, and add the following information:
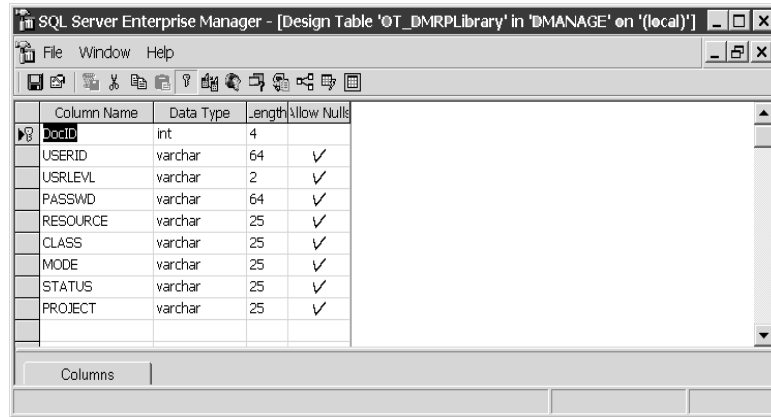
NOTE: The display order is not important.

Field name	Data type	Length	Required	Extended document property name	Display Width	Order
USERID	varchar	64	Yes	USERID	64	1
USRLEVL	varchar	2	No	USRLEVL	2	2
PASSWD	varchar	64	No	PASSWD	64	3
RESOURCE	varchar	25	No	RESOURCE	25	4
MODE	varchar	25	No	MODE	25	5
STATUS	varchar	25	No	STATUS	25	6
CLASS	varchar	25	No	CLASS	25	7
PROJECT	varchar	25	No	PROJECT	25	8

As shown here:
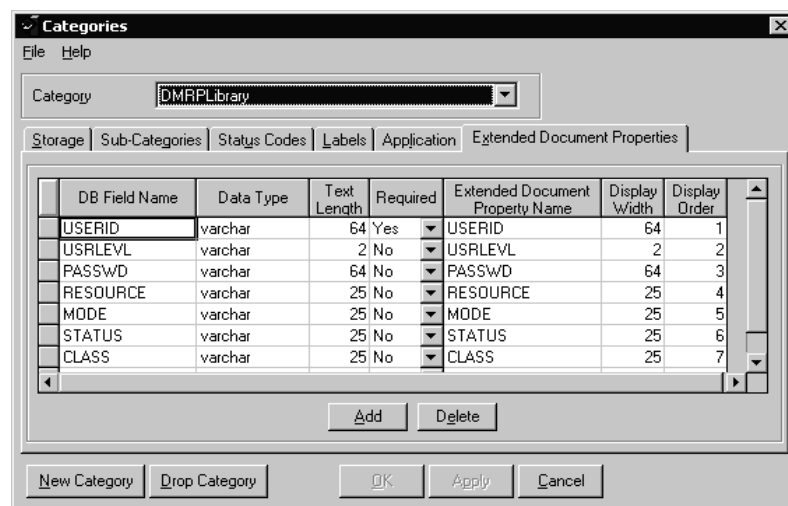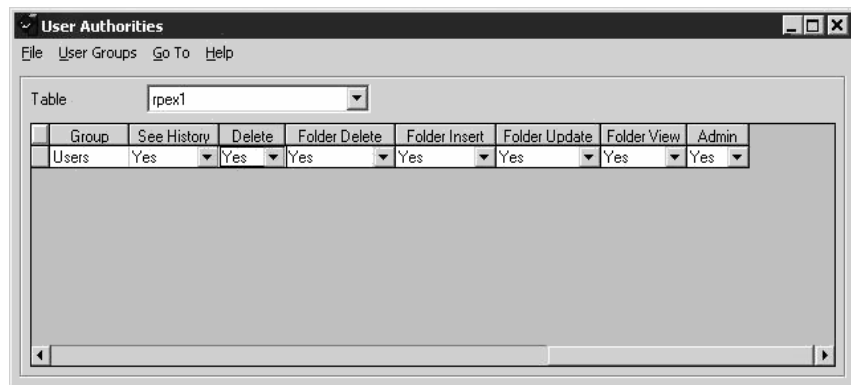
Documanage creates the table OT_DMRPLibrary in the DMANAGE (DM administrative tables) database.

Be sure to select Yes for Folder Update, Folder Insert, Folder Delete, and Administrator Authorities in the Authorities section of Documanage Administrator.

9   Load the test master resource libraries (MRLs) into the config RPEX1. Here are the necessary FAPCOMP.INI options for Documaker RP: (RPEX1LBY is the Documanage cabinet name that contains the objects in this example)

```
< Config:RPEX1 >
    DALFile     = RPEX1LBY
    DDTFile     = RPEX1LBY
    DDTLib      = RPEX1LBY
    FormFile    = RPEX1LBY
    LbyLib      = RPEX1LBY
    LogoFile    = RPEX1LBY
    LogoLib     = RPEX1LBY
    FormLib     = FORMS
    BDFFile     = RPEX1LBY
    GRPFile     = RPEX1LBY
    FORFile     = RPEX1LBY
< DBHandler:LBYSETUP >
    Class       = DMIL
    Domain      = FSI
    RPCHost     = 10.1.10.228
    UserID      = administrator
```

```
        PassWord    = 1234589
        Debug       = No
< DBTable:RPEX1LBY >
        SelfIndex   = Yes
        DBHandler   = LBYSETUP
```

> NOTE: The value in the DBHandler option must match the name in the DBHandler:XXX control group. For instance, in the above example *LBYSETUP* is used in both places.

10 Create a response file for RPEX1. This response file will add FAP, DDT, DAL, and LOGO files into a file called RPEX1.RSP. To create the response file, run the LBRYMGR utility in the directory where the FAPCOMP.INI file resides. Use the following syntax:

```
LBRYMGRW /RSP=RPEX1.RSP /INI=FAPCOMP.INI /
FAP=D:\FAP\MSTRRES\RPEX1\FORMS\*.FAP /
LOGO=D:\FAP\MSTRRES\RPEX1\FORMS\*.LOG /
DDT=D:\FAP\MSTRRES\RPEX1\DEFLIB\*.DDT /
DAL=D:\FAP\MSTRRES\DEFLIB\*.DAL
```

11 Finally, run the response file. For more information on running the response file, see Running Response Files on page 251.

WORKING WITH LIBRARIES

Studio lets you open a library, add resources to a library, delete, or extract resources from a library and edit some of the properties of a resource. You can also run a response file, print a list of resources, and view a history of changes made to a resource. For initialization settings, Studio uses the INI files referenced in the Studio workspace file. The Studio workspace file usually references the FSIUSER.INI and FSISYS.INI INI files.

OPENING A LIBRARY

A workspace is associated with a specific library. When you click on Library, the contents of the library appear, as shown below. This is known as the Library view.

Understanding the System
Once you are in Studio, there is no visible difference between a standard library, a DBMS library, or a Documanage library. You are only concerned with the library type when you are creating a new workspace or using Manage, Settings, Libraries to define a new library.
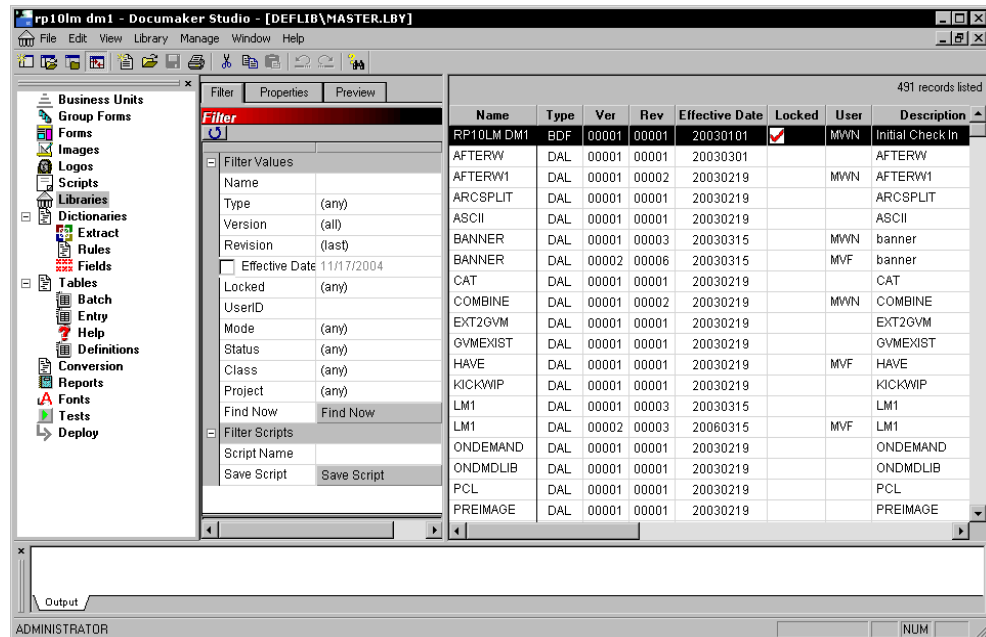
Here you see all the resources in the library along with their type, version/revision, effective date, description, last modified date, mode, status, class, and project, along with information about the user who created the resource and whether or not it is locked.

From this window you can perform these tasks:

To	Do this
Check out a resource	Highlight the resource and right click. Then choose Check Out.
Check in a resource	Highlight the resource and right click. Then choose Check In. The Check In window appears.
Unlock a resource	Highlight the resource and right click. Then choose Unlock.
See a history of the changes made to the resource	Highlight the resource and right click. Then choose History. The Library Log window appears.

To	Do this
Save a copy of the resource to disk	Highlight the resource and right click. Then choose Extract. The Extract Library Resources window appears. From this window you can specify where to extract the resource and other options.
Print a listing of the resources	Right click in the list of resources and choose Print this Window. This prints a list of all the resources currently being shown. You can use the Filter tab to limit that list to only those resources you want to see. For instance, you can choose to see only DAL scripts or FAP files.

ADDING RESOURCES TO A LIBRARY

When you add resources to a library, the system writes information about the resource into the index portion of the library and places the resource itself in the data portion of the library.

There are several ways to add a resource to your library. For instance, you can use the Library, Import Files options to add several files at once. See Importing Files on page 224 for more information. You can also add a single resource to your library.

To add a single resource to your library, you simply choose the File, Check In option. For example, suppose you have opened a bitmap file and you want to check it into the library as a LOG file.
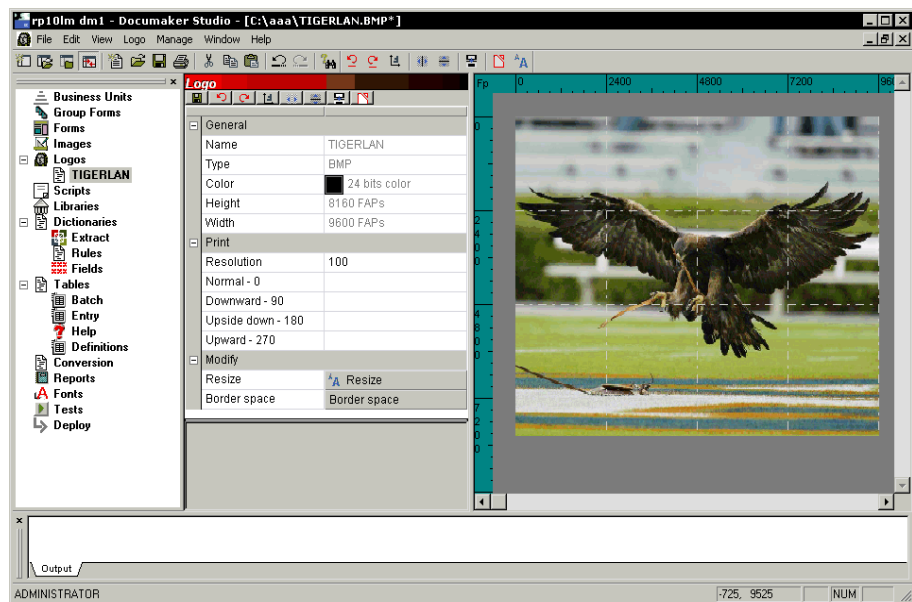
Follow these steps:

1   Choose File, Check In. The Save As window appears.
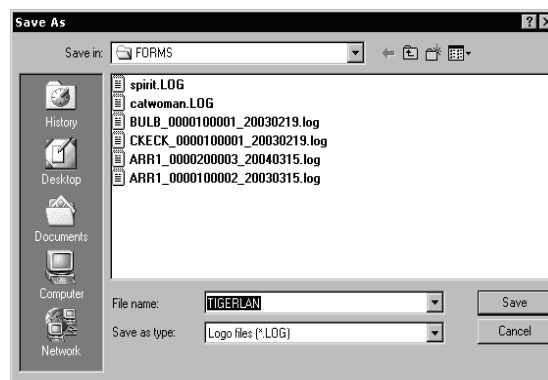
1   Make sure you have the name and location you want to assigned to the resource and click Save. The Check In window appears.

2 Make entries into the following fields as necessary:

Field	Description
Description	You can enter up to 100 characters to indicate what type of change was made to the resource. This field defaults to the contents of the Description field of the resource checked out, but you can enter a different description if you like. The Description field appears on the Check Out Image window that appears when you select a file to check out.
Increment Version	Check this box if you want Studio to increment the version number. If you only make a minor change you will probably want to just increment the revision number and not the version number. The revision number is automatically incremented by one if you do not check the Increment Version field. If you make a major change, or if you need to change the effective date of the resource that you are checking in, check the Increment Version field. This tells Studio to increment the version number by one and set the revision number to one. Once this field is checked, you can modify the Effective Date field. This makes sure all revisions of a resource have the same effective date. When a resource is checked out, changed, and checked back in, the older version/revision combinations of that resource remain in the library and can be loaded by the GenData and GenPrint programs or retrieved by Documaker Workstation or Docupresentment as needed. Keep in mind, however, you can only check out the latest revision of each version of a resource.
Effective Date	All revisions of a specific version of a resource must have the same effective date. This field is only available if you check the Increment Version field. The effective date defaults to MM/DD/YYYY, but may have a different format depending on your locale setting.

Field	Description
Mode	Use this field to assign a mode to the resource as it is checked in. For instance, you can use the Mode field to specify where in the development cycle the resource is. See Defining Mode, Status, Class, and Project Options on page 252 for information on how to set up modes.
Status	Use this field to assign a status to the resource as it is checked in. For instance, you could use the Status field to indicate whether a resource has passed or failed testing. See Defining Mode, Status, Class, and Project Options on page 252 for information on how to set up statuses.
Class	Use this field to assign a class to the resource as it is checked in. For instance, you could use the Class field to indicate the market in which a resource was applicable. See Defining Mode, Status, Class, and Project Options on page 252 for information on how to set up classes.
Project	Use this field to assign a project ID to the resource as it is checked in. For instance, you could use the Project field to indicate which project a resource was associated with. See Defining Mode, Status, Class, and Project Options on page 252 for information on how to set up projects.

3   Click Ok when finished or Cancel to exit without checking in the file.

IMPORTING FILES

You can use the Library, Import Files option to add a number of files into your library. When you choose this option, the Import Files window appears:
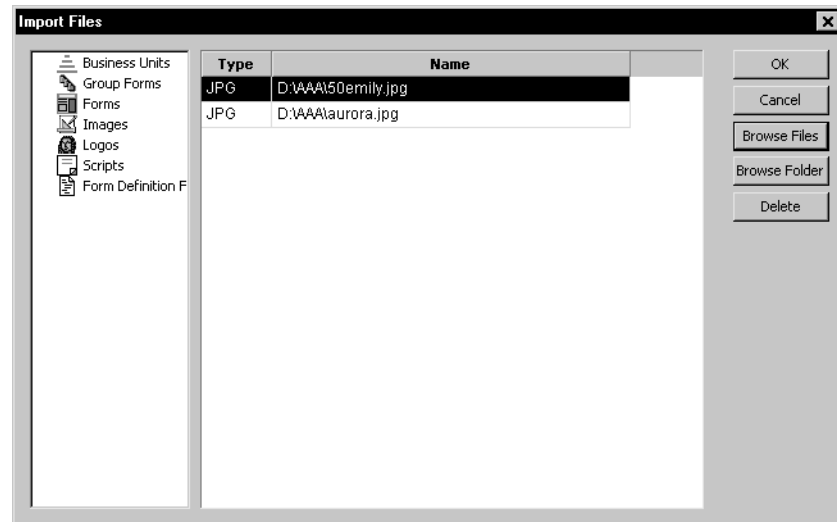
You can use the Browse buttons to select the files you want to import. When you finish, click Ok and Studio adds them to the library. You can then modify the property settings as necessary.

IMPORTING LIBRARIES

You can use the Library, Import Library option to import resources from another library to the workspace library. You can only import resources from a library that is in xBase/CARFile format. You cannot import resources from a library that is in a DBMS format or one that is in Documanage.

When you choose this option, the Open window appears:

When you select a library and click Open, the following window appears:

You can click Cancel to stop the import. Studio lists the resources as it imports them in the Status bar. If you right click in the Status bar and select Print, you can print a list of the resources it imported.

Checking Out Resources

Studio lets you check out resources, edit them and check them back in. While you have a resource checked out, it is *locked* and others cannot check it out, although they can open it in view-only mode.

There are several ways to check out resources. For instance, to check out an image you simply double click on Images, then select the image you want to check out on the Open File window and click Ok.

Another way to check out a resource is to double click Library in the workspace to bring up the library view, then right click on a resource in the library view and select Check Out.

Red check marks indicate resources checked out by other users.

Green check marks indicate resources you have checked out.

NOTE: You can only check out the latest revision of a specific version of a resource. You cannot, for example, check out version 1.4 of Q1SNAM if a version 1.5 exists.

When you check out a resource, this is what happens:

- In the library index record for the resource you are checking out, the RecStatus column is set to LOC and your user ID is placed into the UserID column.

  In the library index, the Locked column will now contain a green check mark to indicate you have checked out the resource (a red check mark indicates another user has checked out the resource).

- A long (or *versioned*) resource name for the resource is created and the resource is retrieved from the library and placed onto disk with the long file name. The long file name consists of the resource name concatenated with the version, revision and effective date of the resource. For example, if version 2, revision 3 of Q1ADDR, with an effective date of 4/21/2007 is checked out, it will be written to disk with this name:

  `Q1ADDR_0000200003_20070421.FAP`

The file is marked as a read/write file. The version, revision, and effective date for the resource appear on the title bar so you can tell which version/revision of the resource you are editing.

The resource is stored on disk in the appropriate directory. You specify these directories in the MasterResource control group, as shown below:

```
< MasterResource >
    BDFLib  = \BDFLIB
    GRPLib  = \GRPLIB
    FORLib  = \FORLIB
    FormLib = \FORMS
    DDTLib  = \DEFLIB
    LogoLib = \FORMS
    DEFLib  = \DEFLIB
```

Option	Description
BDFLib	BDF (business definition) files are stored here.
GRPLib	GRP (group) files are stored here.
FORLib	FOR (form) files are stored here.
FormLib	FAP files (images) are stored here.
DDTLib	DDT files are stored here.
LogoLib	Logo (LOG) files are stored here. This is often the same directory used for FAP files.
DEFLib	DAL (Document Automation Library) files are stored here.

CHECKING IN RESOURCES

Once you finish making changes, you can check in the resource.

When you check in the resource, Studio asks for information the system needs to assign the appropriate version, revision and effective dates.

To check in a resource follow these steps:

1 With the resource open, choose File, Check In. The Check In window appears.

2 Make entries into the following fields as necessary:

Field	Description
Description	You can enter up to 100 characters to indicate what type of change was made to the resource. This field defaults to the contents of the Description field of the resource checked out, but you can enter a different description if you like.
	Your entry in the Description field appears in the grid displayed on the Open File window and in the Library view.
Increment Version	Check this box if you want Studio to increment the version number.
	If you only make a minor change you will probably want to just increment the revision number and not the version number. The revision number is automatically incremented by one if you do not check the Increment Version field.
	If you make a major change, or if you need to change the effective date of the resource that you are checking in, check the Increment Version field. This tells Studio to increment the version number by one and set the revision number to one.
	Once this field is checked, you can modify the Effective Date field. This makes sure all revisions of a resource have the same effective date. When a resource is checked out, changed, and checked back in, the older version/revision combinations of that resource remain in the library and can be loaded by the GenData and GenPrint programs or retrieved by Documaker Workstation or Docupresentment as needed.
	Keep in mind, however, you can only check out the latest revision of each version of a resource.

Field	Description
Effective Date	All revisions of a specific version of a resource must have the same effective date. This field is only available if you check the Increment Version field. When you enter an effective date, keep in mind the date must be equal to or later than the effective date of the prior version of the resource. The effective date defaults to MM/DD/YYYY, but may have a different format depending on your locale setting.
Mode	Use this field to assign a mode to the resource as it is checked in. For instance, you can use the Mode field to specify where in the development cycle the resource is. For more information, see Defining Mode, Status, Class, and Project Options on page 252.
Status	Use this field to assign a status to the resource as it is checked in. For instance, you could use the Status field to indicate whether a resource has passed or failed testing. For more information, see Defining Mode, Status, Class, and Project Options on page 252.
Class	Use this field to assign a class to the resource as it is checked in. For instance, you could use the Class field to indicate the market in which a resource was applicable. For more information, see Defining Mode, Status, Class, and Project Options on page 252.
Project	Use this field to assign a project ID to the resource as it is checked in. For instance, you could use the Project field to indicate which project a resource was associated with. For more information, see Defining Mode, Status, Class, and Project Options on page 252.

3   Click Ok when finished or Cancel to exit without checking in the resource.

This is what happens when you check in a resource:

• The contents of the long (or versioned) resource file are written to the data portion of the library and the long file name is deleted. For example, if you had originally checked out version 2, revision 3 of Q1ADDR FAP, with an effective date of 4/21/2007, the file written to disk during check out would have a long file name of:

`Q1ADDR_0000200003_20070421.FAP`

During check in, after this file is added to the data portion of the library, the file is deleted from disk.

• A new library index record for the resource is added to the library index file. This record contains the name, type, version, revision, effective date, modification date, description, mode, status, and so on of the resource.

Note the version or the revision, or both, of this library index record differs from those of the library index record for the resource originally checked out.

- The library index record for the resource originally checked out is updated so the RecStatus column is changed from *LOC* to blank. This shows the resource is no longer checked out.

  On the Open File window and in the Library view, Studio removes the green check mark that was in the Locked column.

UNLOCKING RESOURCES

When a resource is checked out it becomes locked. You can tell which resources are locked and by whom by looking at the Locked and User columns of the Open File window, shown here:

This file has been checked out by the current user (ADMIN)

These files have been checked out by other users

Only the user who has locked the resource can resume editing the resource or unlock it.

There are several ways to unlock a resource:

- If you are editing a resource and you want to unlock the resource, choose the File, Unlock option. A window appears telling you your changes will be lost if you unlock the resource and asks whether you want to unlock it. Click Yes to unlock the resource.

- Double click on Library in the workspace. From the Library view, right click on the resource you want to unlock and choose Unlock from the popup menu.

- If the resource is in the workspace and has a green check mark next to it, you can either right click on the resource and choose Unlock from the popup menu or highlight the resource and choose Unlock from the File menu.

PROMOTING RESOURCES

You can promote one or more resources from one library to another and in the process have Studio modify the Mode, Status, Class, and Project fields. When you choose the Library, Promote option, the Promote Resources window appears.

NOTE: You must have sufficient access rights to promote resources. If this option is unavailable to you, contact your system administrator.
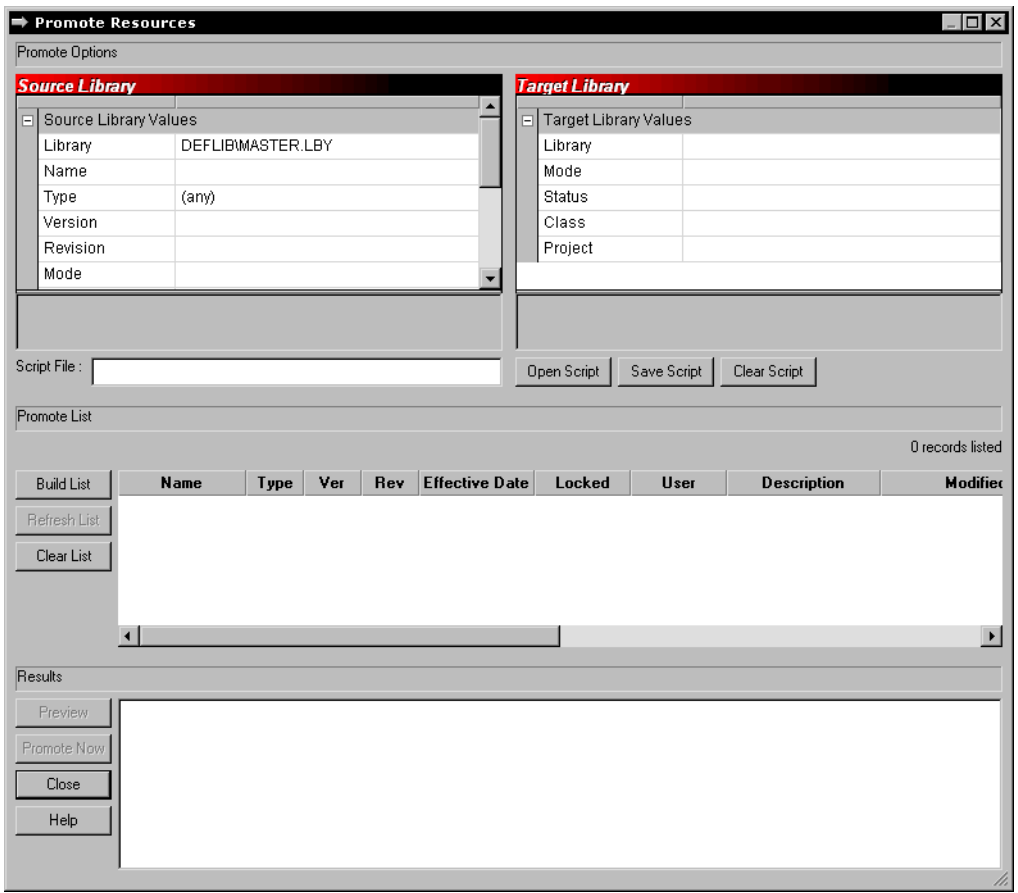
Identifying the resources to promote	On the Promote Resources window, you use the Source Library options to tell Studio which resources you want to promote.

Field	Description
Library	Select the name of the library that contains the resources you want to promote.
Name	Enter the name of the resource you want to promote. You can use wildcards and enter a partial name to have Studio promote a group of similarly named resources. For instance, *brt** tells Studio to select all resources with names that start with *brt*.

Field	Description
Type	Select the type of resource you want to promote. You can choose from any type of resources stored in a library or specify that you want any resource that meets the other criteria.
Version	You can specify that you want Studio to include all versions or just the last version.
Revision	You can specify that you want Studio to include all revisions, just the last revision, or only expired (EXP) revisions.
Mode	Select which mode you want Studio to look for when selecting resources to promote. For more information, see Defining Mode, Status, Class, and Project Options on page 252.
Status	Select which status you want Studio to look for when selecting resources to promote. For more information, see Defining Mode, Status, Class, and Project Options on page 252.
Class	Select which class you want Studio to look for when selecting resources to promote. For more information, see Defining Mode, Status, Class, and Project Options on page 252.
Project	Select which project ID you want Studio to look for when selecting resources to promote. For more information, see Defining Mode, Status, Class, and Project Options on page 252.

Changing the Mode, Status, Class, and Project values in the source library

In addition, you can have Studio change the Mode, Status, Class, and Project values for resources in the source library *after* they are successfully promoted. For instance, you can tell Studio to select resources with a Mode of DEV, promote them, then change the Mode value in the source library to TEST. You do this in the Source Library fields, as shown here:

Scroll down to define the final values in the source library

Field	Description
Mode	Select which mode you want Studio to assign after it moves a copy of the resource into the target library. For more information, see Defining Mode, Status, Class, and Project Options on page 252.
Status	Select which status you want Studio to assign after it moves a copy of the resource into the target library. For more information, see Defining Mode, Status, Class, and Project Options on page 252.y
Class	Select which class you want Studio to assign after it moves a copy of the resource into the target library. For more information, see Defining Mode, Status, Class, and Project Options on page 252.

Field	Description
Project	Select which project ID you want Studio to assign after it moves a copy of the resource into the target library. For more information, see Defining Mode, Status, Class, and Project Options on page 252.

If you do not want these values to change, simply ignore the Source Final Value fields.

Defining the target library

Next, you must define the target library. Click in the Library field to select the library to which you will promote resources.

Click here to select the target library
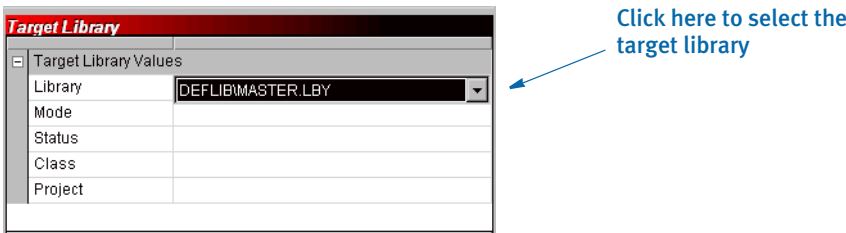
After you identify the target library, you can tell Studio the values you want assigned to the resources it will promote after it moves those resources into the target library.

Field	Description
Mode	Select which mode you want Studio to assign after it moves the resource into the target library. For more information, see Defining Mode, Status, Class, and Project Options on page 252.
Status	Select which status you want Studio to assign after it moves the resource into the target library. For more information, see Defining Mode, Status, Class, and Project Options on page 252.
Class	Select which class you want Studio to assign after it moves the resource into the target library. For more information, see Defining Mode, Status, Class, and Project Options on page 252.
Project	Select which project ID you want Studio to assign after it moves the resource into the target library. For more information, see Defining Mode, Status, Class, and Project Options on page 252.

If you do not want these values to change, simply ignore these Target Library fields.

Using a promotion script

You can save your resource promotion settings and reuse them. To save your settings, enter a name for the script in the Script File field and click Save Script. Studio appends an LSC extension onto the name you entered and stores the script in the DEFLIB directory.
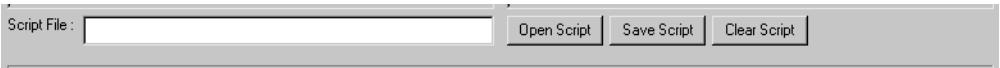
To open a script, click Open Script and choose the script you want to run or edit. You can clear the settings from a script by clicking Clear Script.

Performing the Promotion

Once you define the promotion settings, click Build List to have Studio create a list of the resources that qualify for promotion.

Studio tells you how many resources it selected and lets you scroll through the list
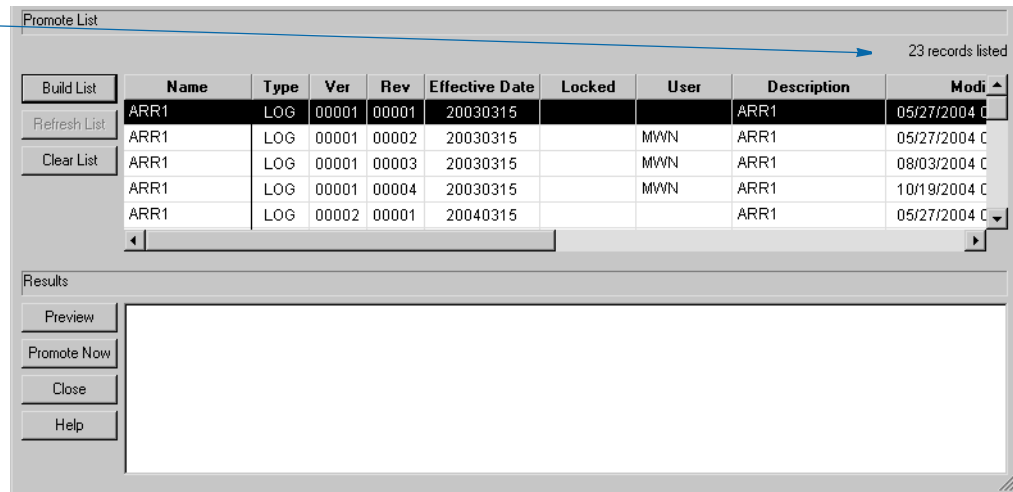
Inspect the resources shown in the list. If necessary, make changes to your selection criteria and build the list again. When you have the list as you want it, click Preview. Studio runs a test promotion and shows you the results.

NOTE: At this point, no changes have been made. Preview simply shows you what the result of your promotion script would be if you actually ran it.

If necessary, make changes to your selection criteria and preview the promotion again. When you are satisfied with the results, click Promote Now to promote the resources.

FILTERING RESOURCES

To make it easier to work with resources, you can apply a filter to select a subset of your resources. For instance, you can apply a filter to see only FAP files (images) or only logos with a given effective date. The filter tab is available on the Open File window and in the Library view.

To create a filter, click the Filter tab:

Field	Description
Name	Enter the name or partial name of a resource or group of resources. You can use wildcards in your entry. For instance, *bil*.fap* will give you all the FAP files with names beginning with *bil*.
Type	Select the type of file you want to filter on. You can choose from all types of files stored in the library.
Version	Choose either all or last to see all versions or only the last version.
Revision	Choose all, last, or EXP to see all revisions, only the last revision, or only expired revisions
Effective Date	Check this field and then select the effective date you want to filter on.
Locked	Choose from yes, no, or any to see only locked files, only files that are not locked, or any file.
User ID	Enter a user ID to see only files assigned to that user.
Mode	Select which mode you want to filter on.
Status	Select which status you want to filter on.
Class	Select which class you want to filter on.

Field	Description
Project	Select which project ID you want to filter on.
Script Name	Enter a name for the filter script you are creating or enter the name of the script you want to retrieve.

Click Save Script to save this filter script so you can reuse it.

NOTE: If you save a filter script, Studio remembers the script name and tries to use that script the next time you open the Open File window or the Library view. To prevent Studio from remembering the script and trying to use it the next time, remove the script name before you exit this window.

EDITING RESOURCE INFORMATION

The steps below tell you how to edit the Description, Effective Date, Mode, Status, Class, and Project fields for a resource.

1   From the Library view, highlight the resource whose properties you want to modify and click the Properties tab.

These prompts guide you through the fields.

Click Update Resource to save your changes.

2   Make your changes. You cannot edit some fields, such as the version number. This table discusses the fields you can edit:

Field	Description
Effective Date	All revisions of a specific version of a resource must have the same effective date. The effective date for a resource must equal or fall after the effective date for the prior version of that resource. Studio prevents you from entering a prior date. The effective date defaults to MM/DD/YYYY, but may have a different format depending on your locale setting.
Description	You can enter up to 100 characters to indicate what type of change was made to the resource. This field defaults to the contents of the Description field of the resource checked out, but you can enter a different description if you like. Your entry in the Description field appears in the grid displayed on the Open File window and in the Library view.
Mode	Use this field to assign a mode to the resource as it is checked in. For instance, you can use the Mode field to specify where in the development cycle the resource is. For more information, see Defining Mode, Status, Class, and Project Options on page 252.

Field	Description
Status	Use this field to assign a status to the resource as it is checked in. For instance, you could use the Status field to indicate whether a resource has passed or failed testing.
	For more information, see Defining Mode, Status, Class, and Project Options on page 252.
Class	Use this field to assign a class to the resource as it is checked in. For instance, you could use the Class field to indicate the market in which a resource was applicable.
	For more information, see Defining Mode, Status, Class, and Project Options on page 252.
Project	Use this field to assign a project ID to the resource as it is checked in. For instance, you could use the Project field to indicate which project a resource was associated with.
	For more information, see Defining Mode, Status, Class, and Project Options on page 252.

3 Click the Update Resource icon on the toolbar to record your changes.

DELETING RESOURCES

You must be a library or system administrator or have been assigned the specific right to delete library resources. If you do not have the appropriate rights, the red X icon shown below will not be enabled.

In all but very rare circumstances, if you have ever used the resource, you should not delete it. For example, suppose a form was used when a policy was archived and you later delete that form. If you later try to retrieve that form from archive, you will encounter problems because the system will not be able to load the form you deleted.

If you delete a resource from the library while it is checked out, you cannot later check in the resource. If you try, Studio tells you the resource has not been checked out. You would then have to close the resource and delete it from disk.

NOTE: When you delete a resource from the library, Studio does not remove the file from disk if you had it checked-out or extracted a copy there. Studio merely removes the resource from the library. Once removed, you cannot undo this action.

To delete a resource from Library Manager, first select the resource. Then, on the Properties tab for the resource, click the red X, as shown below.

Click here to delete the selected resource.
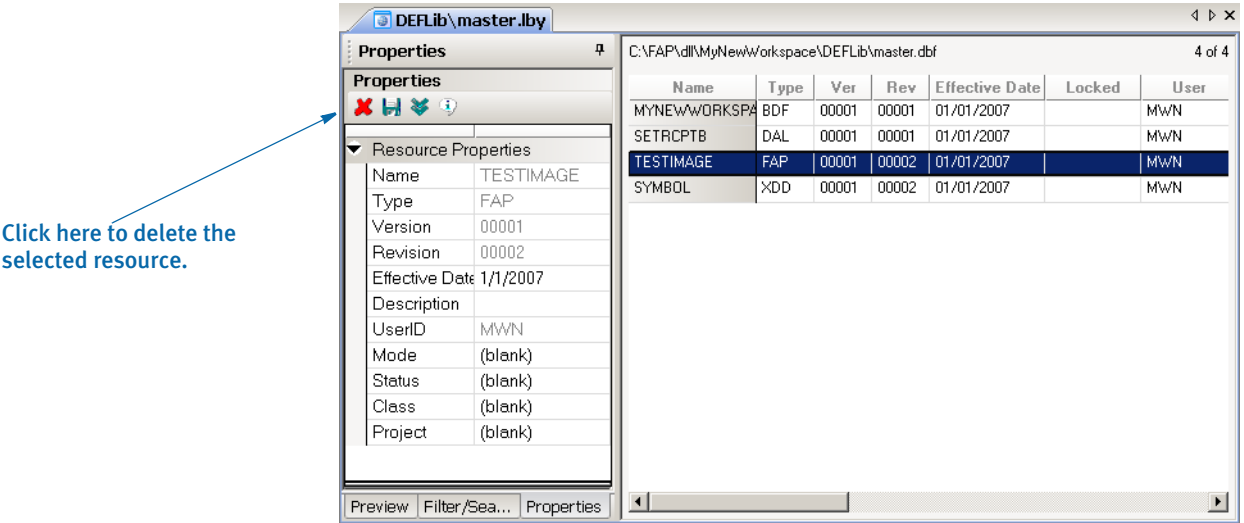
Studio warns you that you cannot undo this action and lets you confirm the deletion.
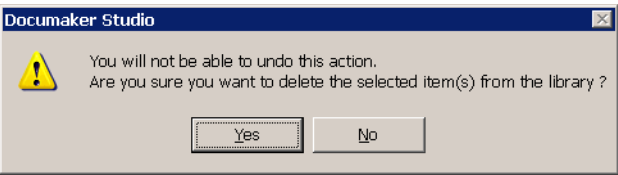
Click Yes to delete the resource you selected. Studio then deletes the resource from the library and from your hard disk.

NOTE: There is a Delete option on the pop-up menu for the Workspace window and a Delete button on the Workspace List window. These options delete a file from disk and do not affect the library storage of the selected item — assuming it came from the library. Unlike deleting a resource from the library, you do not have to have special rights to use these Delete options.

SEARCHING THE LIBRARY

You can use the Library, Search option to identify resources that reference (or contain) other resources or resource elements. For instance, since FAP files can contain references to logos (LOG resources), variable fields, rule names, and text labels, you can use this option to search the library for FAP files that contain a given field name or that use a certain rule.

When you choose the Library, Search option, the Search Library window appears.

Defining the resources

Use the Search Source fields to identify the resources you want to search. You must limit your search to a specific type of resource.

Field	Description
Library	Select the library in which the resources are stored.

Field	Description
Name	Enter the name or partial name of a resource or group of resources. You can use wildcards in your entry. For instance, specifying a type of FAP and a name value of *bil** tells Studio to search all FAP files with names that begin with the letters *bil*.
Type	Select the type of resource you want to filter on. You can choose from these types of resources: BDF, GRP, FOR, and FAP.
Version	Choose either all or last to see all versions or only the last version.
Revision	Choose all, last, or EXP to see all revisions, only the last revision, or only expired revisions
Mode	Use this field to tell Studio to include only those resources assigned the mode you specify.
Status	Use this field to tell Studio to include only those resources assigned the status you specify.
Class	Use this field to tell Studio to include only those resources assigned the class you specify.
Project	Use this field to tell Studio to include only those resources assigned the project ID you specify.
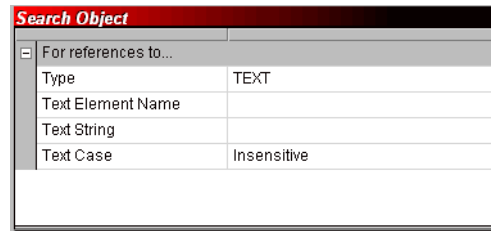
Defining the objects

Use the Search Objects fields to identify specific objects within the resources you want to search for. For instance, these fields let you search for a specific field on FAP files or a specific group within business unit files.

The fields change, depending on what you select in the Type field in the Search Source fields. For instance, if you chose FAP files in the Type field, you see these fields:

Field	Description
Type	You can choose from Field, Text, Font, Log, Rule (image), Rule (field). Your selection tells Studio to search for this type of object in the FAP files selected using the criteria you specified on the Search Source fields.
Name	The name of this field changes, depending on what you chose in the Type field. For instance, if you chose Field in the Type field, the name of this field is Field Name. If you chose Image Rule, the name will be Image Rule Name. Enter the name of the field, the font ID, the logo, the image rule, or the field rule. If you chose Text in the Type field, the following fields appear:

Field	Description
Text Element Name	Enter the name of the text element you want to search for. If you leave this field blank, Studio identifies all text elements.
Text String	Enter the text string you want to search for. If you leave this field blank, Studio identifies all text elements that match the Text Element Name field. If you left the Text Element Name field blank, Studio searches for text elements with any name.
Text Case	Choose Insensitive if you do not want Studio to consider the case when reaching. Choose Sensitive if you do want the case considered.

Using a search script You can save your search settings and reuse them. To save your settings, enter a name for the script in the Script File field and click Save Script. Studio appends an LSC extension onto the name you entered and stores the script in the DEFLIB directory.

To open a script, click Open Script and choose the script you want to run or edit. You can clear the settings from a script by clicking Clear Script.

Performing the Search

Once you define the search settings, click Search to have Studio create a list of the resources it found based on the criteria you defined.

Click here to start the search

The results appear here
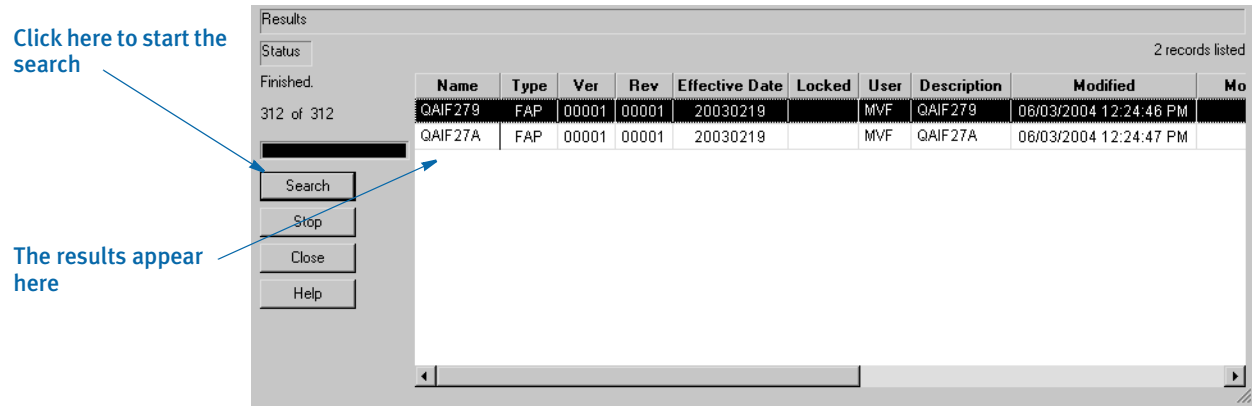
You can highlight on any selected resource, right click, and perform these tasks:

To	Select this option
Check out the resource	Check Out. See Checking Out Resources on page 226 for more information.
Open the resource without checking it out	Read
See the history of changes to the resource	History. See Reviewing a History of Resource Changes on page 249 for more information.
Extract the resource from the library	Extract. See Extracting Resources on page 244 for more information.
Promote the resource	Promote. See Promoting Resources on page 231 for more information.
Expire the resource	Expire. See Expiring Resources on page 248 for more information.
Print a list of the resources found	Print this Window

EXTRACTING RESOURCES

You can extract a resource from a library using the Library, Extract option. You can also highlight the resource on the Library View or from a list of resources found via a search, right click, and select the Extract option.

The Extract Library Resources window appears.
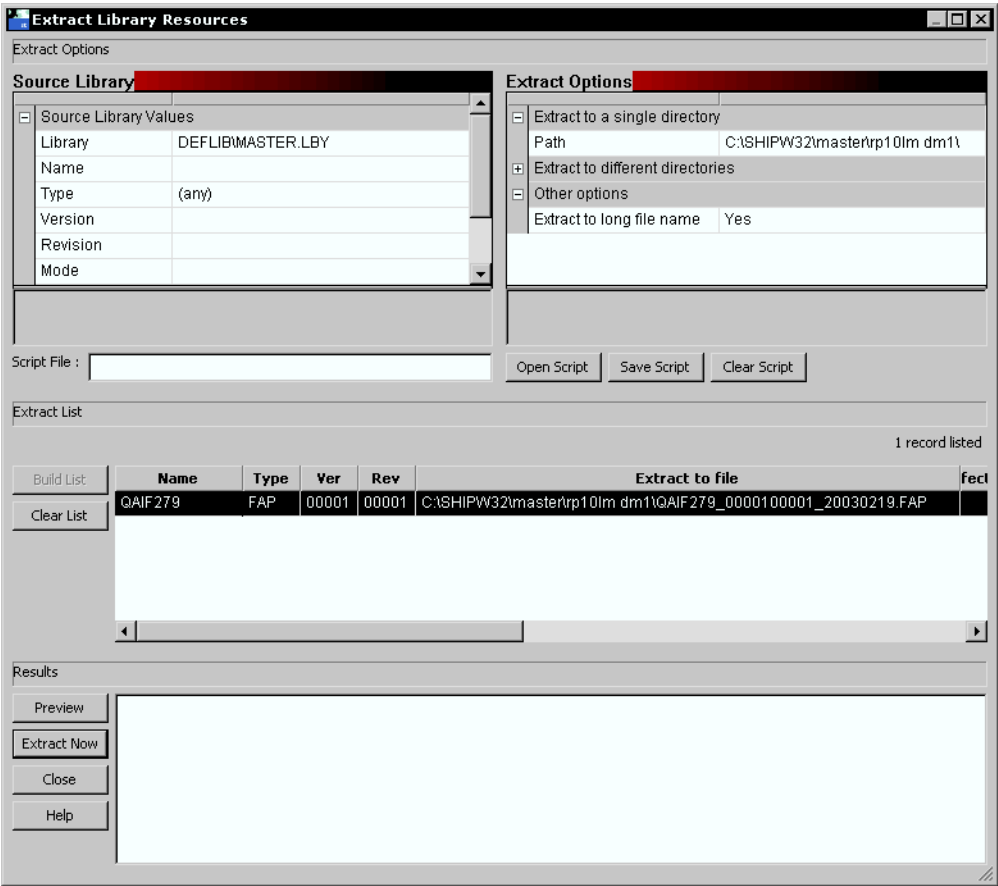
Identifying the resources to extract

On the Extract Library Resources window, you use the Source Library options to tell Studio which resources you want to extract.

Field	Description
Library	Select the name of the library that contains the resources you want to extract.
Name	Enter the name of the resource you want to extract. You can use wildcards and enter a partial name to have Studio promote a group of similarly named resources. For instance, *brt** tells Studio to select all resources with names that start with *brt*.
Type	Select the type of resource you want to extract. You can choose from any type of resources stored in a library or specify that you want any resource that meets the other criteria.

Field	Description
Version	You can specify that you want Studio to include all versions or just the last version.
Revision	You can specify that you want Studio to include all revisions, just the last revision, or only expired (EXP) revisions.
Mode	Select which mode you want Studio to look for when selecting resources to extract.
Status	Select which status you want Studio to look for when selecting resources to extract.
Class	Select which class you want Studio to look for when selecting resources to extract.
Project	Select which project ID you want Studio to look for when selecting resources to extract.

Defining extract options

Use the Extract Options fields to tell Studio which directory or directories to extract the resources to. By default, Studio extracts the resources to the location you identified using the Path field. You can change this location by clicking on the field and navigating to a different location.

If you are extracting several types of resources and you want each resource type to be extracted to a specific directory, you can specify the directories by expanding the Extract to Different Directories item and specifying a directory for each type.

By default, the extracted resources are written to disk with their long file name. The long file name is constructed by taking the resource name, appending an underscore, appending the version and revision (five digits each), followed by another underscore, followed by the effective date (in YYYYMMDD format) and followed by a file extension for the specific resource type, such as BDF or GRP. If you want to extract to the standard name of the resource, select No in the Extract to Long File Name field.

Click here to define a directory for each type of resource.

Enter a path to define a single directory into which the extracted resources will be copied.

Extract Options

- ⊟ Extract to a single directory
  - Path   C:\SHIPW32\master\rp10lm drn1\
- ⊞ Extract to different directories
- ⊟ Other options
  - Extract to long file name   Yes

Field	Description
Path	Enter a path to extract the selected resources to a specific path.
Extract to different directories	Click to display fields into which you can define individual directories for each type of resource.

Field	Description
Extract to long file name	Select Yes to use long file names. Select No to use the 8.3 file naming convention on extracted resources. Long file names are created by taking the resource name, appending an underscore followed by the version and revision, then appending another underscore followed by the date in YYYYMMDD format, and then adding an extension to indicate the resource type. Here is an example: `FileName_0000100001_20041201.fap`

Using an extraction script

You can save your resource extraction settings and reuse them. To save your settings, enter a name for the script in the Script File field and click Save Script. Studio appends an LSC extension onto the name you entered and stores the script in the DEFLIB directory.

Script File :		Open Script	Save Script	Clear Script

To open a script, click Open Script and choose the script you want to run or edit. You can clear the settings from a script by clicking Clear Script.

Performing the Extraction

Once you define the extraction settings, click Build List to have Studio create a list of the resources that qualify for extraction.

Studio tells you how many resources it selected and lets you scroll through the list.
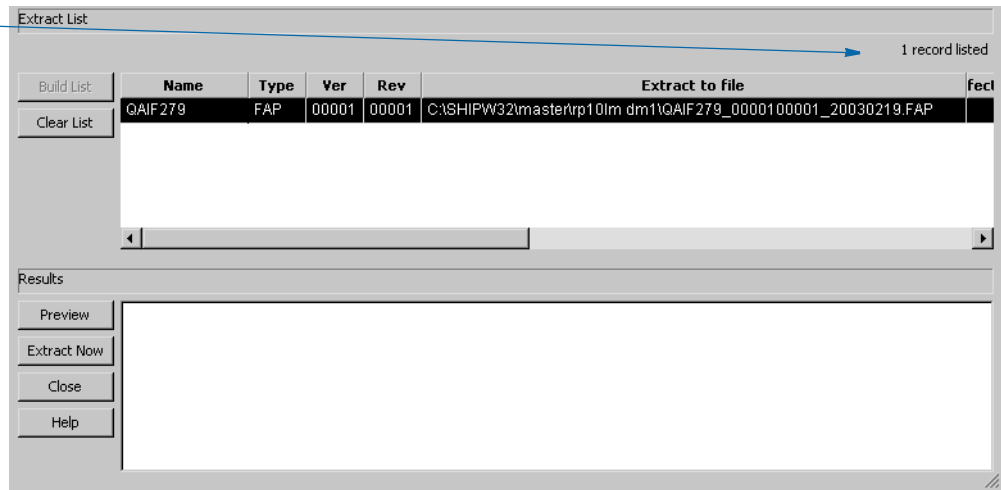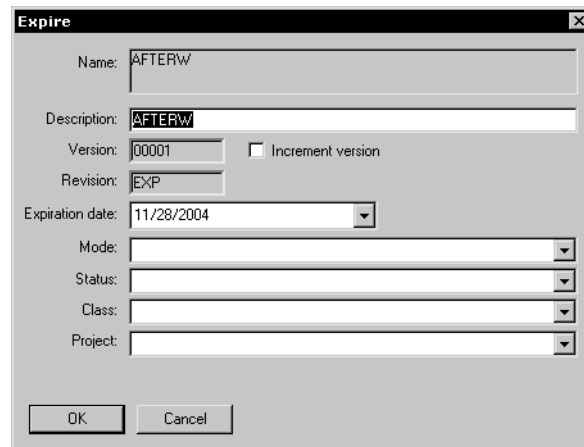
Inspect the resources shown in the list. If necessary, make changes to your selection criteria and build the list again. When you have the list as you want it, click Preview. Studio runs a test extraction and shows you the results.

NOTE: At this point, no changes have been made. Preview simply shows you what the result of your extraction script would be if you actually ran it.

If necessary, make changes to your selection criteria and preview the extraction again. When you are satisfied with the results, click Extract Now to extract the resources.

Expiring Resources

You can expire a resource you no longer wish to maintain. In essence, expiring a resource is like retiring a resource. The resource remains in the library, but has *EXP* as its revision number. To expire a resource, highlight the resource on the Library view or from a search list and right click. Then choose the Expire option. The Expire window appears.

Expiring a resource tells Studio to check into the library another revision of the resource, but with *EXP* as the value of the Revision field.

By default, the expiration date is set to today's date but you can change this date if necessary. The expiration date you specify must be greater than or equal to the effective date of other revisions within this version and must be less than or equal to the effective date of the next version of the resource, if one exists.

On the Expire window, you can also enter a description and set the Mode, Status, Class, and Project fields. Once you are satisfied with the values, click Ok to expire the resource.

REVIEWING A HISTORY OF RESOURCE CHANGES

To see what changes have occurred to the resources in your library, choose the Library, History option. The Library Log window appears.

Studio shows you a log of all changes to all resources. You can filter this list by assigning filter values.

For instance, you can use a filter to see only FAP files which have been checked in by a specific user. Here are the fields you can define to create a filter:

Field	Description
Name	Enter the name or partial name of a resource or group of resources. You can use wildcards in your entry. For instance, specifying a type of FAP and a name of *bil** tells Studio to display the log entries for all FAP files whose names begin with the letters *bil*.
Action	Choose from these actions: any, added, checked in, checked out, deleted, promoted from after, promoted from before, promoted to, unlocked, updated from, or updated to.

Field	Description
Library	Select the library in which the resources are stored.
Type	Select the type of file you want to filter on. You can choose from all types of files stored in the library.
User ID	Enter the user ID for the user on whom you want to filter.
Mode	Select which mode you want to filter on.
Status	Select which status you want to filter on.
Class	Select which class you want to filter on.
Project	Select which project ID you want to filter on.

Click Filter Now to apply the filter.

Running Response Files

A response file is a file created by the LBRYMGR utility which contains commands and data. These commands and data are then read and processed accordingly. There are two ways to process a response file:

- Using the LBRYMGR utility (see the Docutoolbox Reference for more information)

- Using Studio

To read and process a response file using Studio, follow these steps:

1 Choose the Library, Run Response File option. The Open window appears from which you can select the response file you want to run.
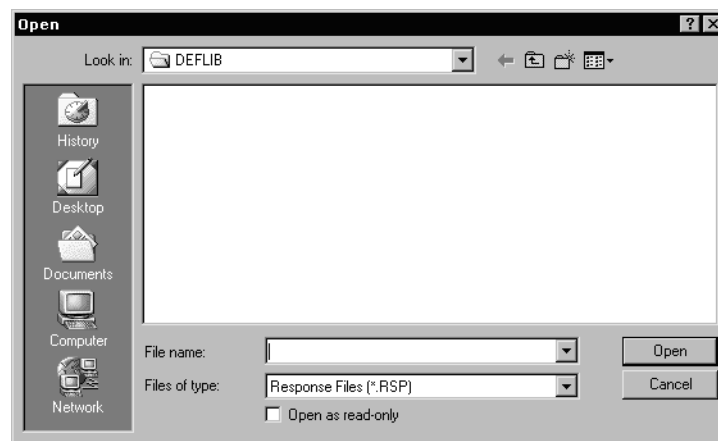
2 Select the response file to process and click Ok. Studio displays messages to show you its progress.

DEFINING MODE, STATUS, CLASS, AND PROJECT OPTIONS

Use the Manage, Settings option to define the Mode, Status, Class, and Project options users choose from when checking in a resource. These options are grouped under LibraryManager, as shown here:
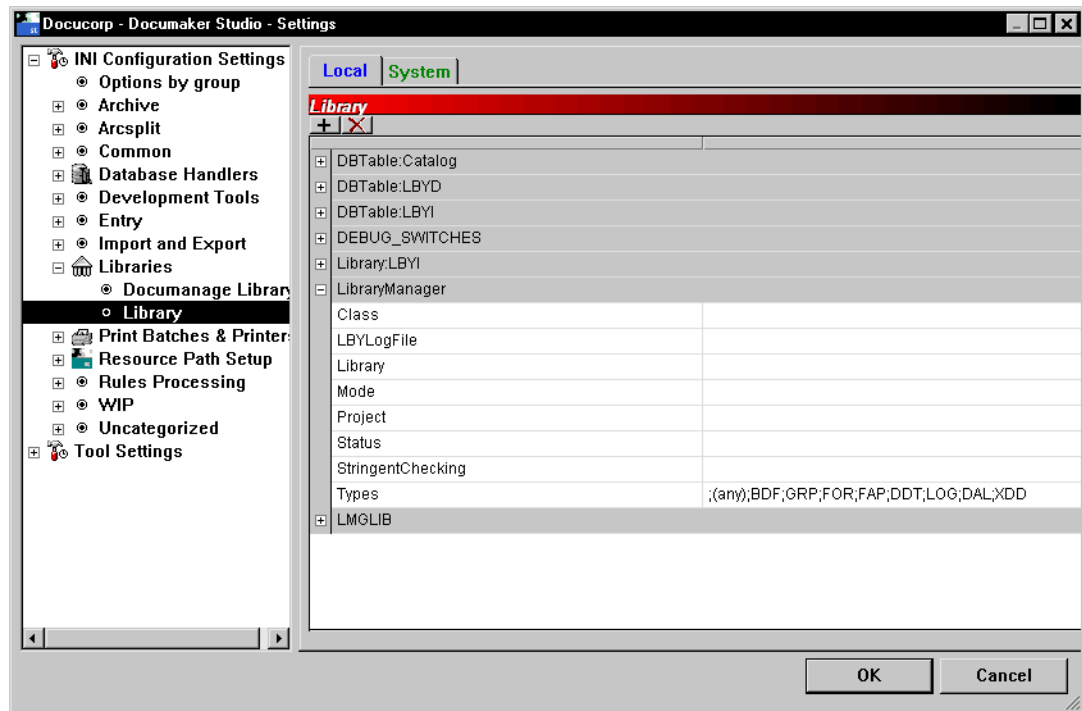
You can have multiple modes, classes, statuses, and projects.

Option	Description
Mode	Use this option to set up the modes users will select from in the Mode field as they edit resource information. For instance, you can use the Mode field to specify where in the development cycle the resource is. You can set up multiple options, as shown here: `Mode = DEV;Development` `Mode = TEST;Testing` `Mode = PROD;Production` These entries set up these modes: DEV, TEST, and PROD. The text after the semicolon is an optional description.
Status	Use this option to set up the statuses users will select from in the Status field as they edit resource information. For instance, you could use the Status field to indicate whether a resource has passed or failed testing. You can set up multiple statuses, as shown here: `Status = TEST;Test` `Status = PASSED;Passed testing` `Status = FAILED;Failed testing` These entries set up these statuses: TEST, PASSED, and FAILED. The text after the semicolon is an optional description.

Option	Description

Class	Use this option to set up the classes users will select from in the Class field as they edit resource information. For instance, you could use the Class field to indicate the market in which a resource was applicable. You can set up multiple classes, as shown here:
	
	`Class = GA;Georgia resource`
	`Class = TX;Texas resource`
	`Class = MD;Maryland resource`
	
	These entries set up these classes: GA, TX, and MD. The text after the semicolon is an optional description.

Project	Use this option to set up the projects users will select from in the Project field as they edit resource information. For instance, you could use the Project field to indicate which project a resource was associated with. You can set up multiple projects, as shown here:
	
	`Project = P001;Project 001`
	`Project = P002;Project 002`
	`Project = P003;Project 003`
	
	These entries set up these projects: P001, P002, and P003. The text after the semicolon is an optional description.

USING THE LBYPROC UTILITY

The LBYPROC utility processes library scripts. Library scripts are XML-based files that let you perform actions on a resource library. You can use these scripts for...

- Adding resources to a library

- Deleting resources from a library

- Extracting resources from a library (writing the contents to a disk file)

- Promoting resources from one library to another

- Searching a library for specific elements

- Producing a list of resources that match a designated set of filter values

The scripts are designed so a script can cause the indicated action to be performed on more than one resource. For example, a single Promote script can cause many resources to be promoted from one library to another and an Extract script can cause many resources in a library to be extracted from the library and written to disk.

Here are some example scripts:

```
<LBYSCRIPT>
<FILTER>
<LIBRARY VALUE=".\DEFLIB\MASTER.LBY"/>
<NAME VALUE=""/>
<TYPE VALUE=""/>
<MODE VALUE=""/>
<STATUS VALUE=""/>
<CLASS VALUE=""/>
<PROJECT VALUE=""/>
<DESC VALUE=""/>
<VERSION VALUE=""/>
<REVISION VALUE="last"/>
<USERID VALUE=""/>
<EFFDATE VALUE=""/>
</FILTER>

<PROMOTE>
<LIBRARY SRC=".\deflib\MASTER.LBY" TGT=".\deflib\V.LBY"/>
<NAME VALUE=""/>
<TYPE VALUE=""/>
<VER VALUE=""/>
<REV VALUE=""/>
<USERID VALUE=""/>
<MODE SRC="" TGT=""/>
<STATUS SRC="" TGT="*"/>
<CLASS SRC="" TGT="*"/>
<PROJECT SRC="" TGT="*"/>
</PROMOTE>

<ADD>
<LIBRARY VALUE=".\DEFLIB\MASTER.LBY"/>
<FILENAME VALUE=".\forms\Q1ADDR.fap"/>
<NAME VALUE="Q1ADDR"/>
<DESC VALUE="Added this FAP using LBYPROC"/>
<TYPE VALUE="FAP"/>
<SUBTYPE VALUE=""/>
```

```
<EFFDATE VALUE="20030701"/>
<VER VALUE="00001"/>
<REV VALUE="00001"/>
<MODE VALUE=""/>
<STATUS VALUE=""/>
<CLASS VALUE=""/>
<PROJECT VALUE=""/>
</ADD>

<SEARCH>
<LIBRARY VALUE=".\DEFLIB\MASTER.LBY"/>
<NAME VALUE=""/>
<TYPE VALUE="FAP"/>
<MODE VALUE=""/>
<STATUS VALUE=""/>
<CLASS VALUE=""/>
<PROJECT VALUE=""/>
<OBJECTTYPE VALUE="LOG"/>
<OBJECTNAME VALUE=""/>
<OBJECTTEXT VALUE=""/>
<OBJECTEXTCASE VALUE=""/>
</SEARCH>

<EXTRACT>
<LIBRARY VALUE="DEFLIB\MASTER.LBY"/>
<NAME VALUE="" TGTNAME="LONG"/>
<ALLLIB VALUE=".\EXT\"/>
<BDFLIB VALUE=".\EXT\BDFLIB\"/>
<GRPLIB VALUE=".\EXT\GRPLIB\"/>
<FORLIB VALUE=".\EXT\FORLIB\"/>
<FAPLIB VALUE=".\EXT\FAPLIB\"/>
<DDTLIB VALUE=".\EXT\DDTLIB\"/>
<LOGLIB VALUE=".\EXT\FAPLIB\"/>
<DALLIB VALUE=".\EXT\DEFLIB\"/>
<TYPE VALUE=""/>
<VERSION VALUE=""/>
<REVISION VALUE=""/>
<MODE VALUE=""/>
<STATUS VALUE=""/>
<CLASS VALUE=""/>
<PROJECT VALUE=""/>
</EXTRACT>

<DELETE>
<LIBRARY VALUE=".\DEFLIB\W.LBY"/>
<NAME VALUE=""/>
<TYPE VALUE="FOR"/>
<MODE VALUE=""/>
<STATUS VALUE=""/>
<CLASS VALUE=""/>
<PROJECT VALUE=""/>
</DELETE>

</LBYSCRIPT>
```

TROUBLESHOOTING

To help you resolve problems, this topic discusses how to turn on tracing and various error messages you may encounter.

TURNING ON TRACING

If you feel Studio is not retrieving the correct version/revision of a resource, or if you are experiencing other problems that seem to be related to the use of a library, you can use INI options to create a trace file.

You can then use the trace file to determine the date of the resource you requested and the effective date of the resource returned by Studio, as well as other library-related information. To turn on tracing, specify these options:

```
< Debug_Switches >
    Enable_Debug_Options   = Yes
    LbyLib                 = Yes
```

This table shows you where to place the options and the default file name.

For	Specify the options in	Default file name
Documaker RP (GenData)	FSIUSER.INI or FSISYS.INI	trace
Documaker Workstation	FSIUSER.INI or FSISYS.INI	trace
Docucreate	FAPCOMP.INI	trace
Docupresentment (IDS)	DAP.INI or RPEX1.INI *	dprtrc.log

* RPEX1.INI is commonly-used as the name of the configuration INI file. If the name you use differs, substitute that name.

For Documaker RP, Documaker Workstation, and Docupresentment, you can specify the name of the trace file using this option:

```
< Data >
    TraceFile =
```

NOTE: Turning on the tracing causes a large amount of data to be written to the trace file. For optimal performance, only do this when you are testing or troubleshooting an implementation.

You may also want to retain the NAFILE.DAT and the POLFILE.DAT files. During retrieval, these files are retrieved from archive and are initially written to disk then later deleted. To keep these files on disk during retrieval from Documaker Workstation, include this option:

```
< ArcRet >
    KeepFiles = Yes
```

To keep the NAFILE and POLFILE on disk during retrieval from Docupresentment (IDS), include this option:

```
< Attachments >
    Debug = Yes
```

NOTE: For optimal performance, only turn on the KeepFiles or Debug option when you
        are testing or troubleshooting a system.

HANDLING ERROR MESSAGES

Here are some of the error messages you may encounter:

ORA-00904   The following error message:

```
[Oracle][ODBC][Ora]ORA-00904: invalid column name
```

indicates one of the column names in the table is invalid. To determine which table is
invalid, turn on LBYLIB tracing (See Turning on Tracing on page 256), recreate the
problem, then examine the trace file and look for the ORA-00904 error message. The
table referenced immediately before the ORA-00904 message is the one with the
invalid column.

Note there are column names reserved by Oracle which cannot be used. To remap a
column name use the ODBC_FieldConvert control group as described in a previous
section. If you are setting up the tables for the first time, after re-mapping the column,
you may need to remove the existing table so it can be recreated with the correct
column names.

This message can also indicate you are trying to reference a column in the table that
does not exist. Look closely at the trace file and compare the columns referenced in the
SQL statement, such as SELECT, to the columns of the table as it is defined in the
database.

ORA-01401   The following error message:

```
[Oracle][ODBC][Ora]ORA-01401: inserted value too large for column
```

indicates you are trying to insert a value that is too large for the column. To try to
determine which table the problem is with, turn on LBYLIB tracing (See Turning on
Tracing on page 256), recreate the problem, then examine the trace file and look for the
ORA-01401 error message. The table referenced immediately before the ORA-01401
message should be the table that contains the column with the problem.

SQL0104N   The following DB2 ODBC error message:

```
42601 -104 [IBM][CLI Driver][DB2/NT] SQL0104N  An unexpected token
")" was found following "on DAP110_LBYI_R1 (".
Expected tokens may include:  "<index_col_list>". SQLSTATE=42601
```

indicates that the DB2 driver attempted to create an index for the table. When using the
DB2 ODBC driver, you should always set the following INI option to No.

```
< DBHandler:ODBC >
   CreateIndex = No
```

Using Dictionaries

Use the Dictionaries option to work with the fields, rule files, and extract files you will use in your implementation. This topic discusses the following topics:

WORKING WITH EXTRACT FILES

The extract dictionary (also known as the SYMBOL.XDD) lets you store information about extract file records, as well as fields within records, in a database file format. Each record in this database contains all of the information that appears in the rule section for a variable field. Other information is also stored in the XDD. You can use the extract dictionary in both the field mapping process and the triggering process. This topic discusses the creation of and the use of the XDD in the mapping process.

Use of the XDD increases productivity and reliability when mapping since each field does not have to be mapped at a detailed level. Instead of entering information for all the fields in the Rule section for each variable field on an image, all that is required is that the rule XDD be specified for the field rule.

Typically, there is one (see note below) SYMBOL.XDD file per resource library. It is stored by default in the DEFLIB directory, under the specified workspace. The XDD is used with the rule section of the image at rules processing time. The link to the XDD database from the rule section of the image is the use of the XDD rule.

When the rules processor runs, items for the XDD are stored in cache. A thousand entries is the default cache number. There are INI options to change this number and to control the order of fields being removed (less frequent ore less recent) from cache. Use the extract dictionaries option to build the SYMBOL.XDD file.

The XDD file is laid out in a parent-child structure. The top level, parents, are individual records in the extract file. Fields within the record are children.

NOTE: You can have a separate XDD file for each line of business. This is specified in the BDF file. At conversion time, the MASTER.DDT file, if one exists, and the XDB.DBF file, if one exists, automatically import into the SYMBOL.XDD file.

OPENING AN EXTRACT DICTIONARY

There are two ways to open an extract dictionary:

• Using the Manage, Dictionaries, Extract option

• By clicking on Extract in the workspace

The main window that appears when you are managing an extract dictionary is shown here.

Click here to expand these items

You maintain the property information here

```
E:\SHIPW32\master\rp10lm dm1\DEFLIB\
  Extract Dictionary
    EDDdict
    EDDLib

  Options
    Name
    Offset                      0
    Length                      0
    Rule
    Required
    Type
    Format
    Mask
    Conditional
    Custom format function
    Multiple occurrence
    Description
    Search Mask is an XPath
    Data
```
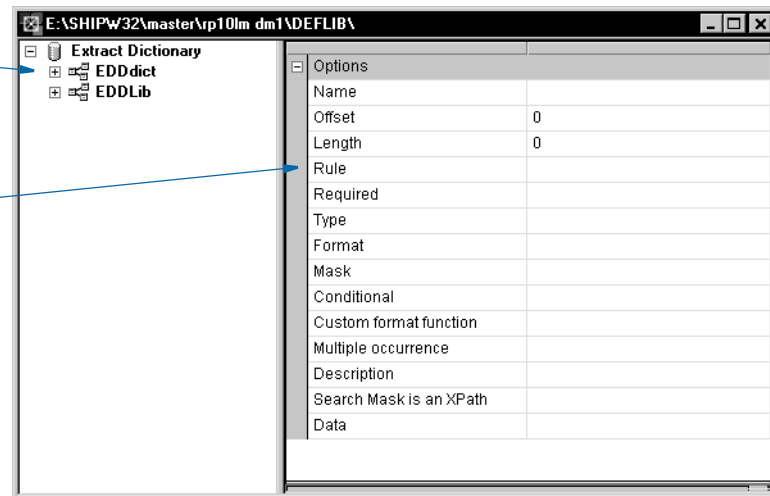
When you highlight an extract dictionary or the fields it contains, its property information appears so you can modify it.

Property	Description
Name	Enter a unique name for this entry.
Offset	Enter the offset of the data in the extract.
Length	Enter the length of the data in the extract.
Rule	List any optional rule to run on this data. You can only use the DAL ? rule and the GlobalFld rule.
Required	Choose one of these options: Not, Host, Operator, Either.
Type	Reserved for future use.
Format	Reserved for future use.
Mask	Include the formatting mask for the data returned by the rule.
Conditional	Set to Yes if this entry can be used as a trigger.
Custom format function	Reserved for future use.
Multiple occurrence	Reserved for future use.

Property	Description
Description	Reserved for future use.
Search mask is an XPath	Set to Yes if the search mask is an XPath. Otherwise, choose No.
Data	Use this field for search masks and rule parameters.

WORKING WITH FIELDS

Click on Fields to work in a centralized database where the system stores variable field attributes for the master resource library. Here you can edit and manage common field information.

Storing common variable field information can make setting up and creating FAP files faster and more consistent.

Here is an example of the window that appears when you are working with fields:

Click here to add a field

Click here to delete a field

Click here to restore original values
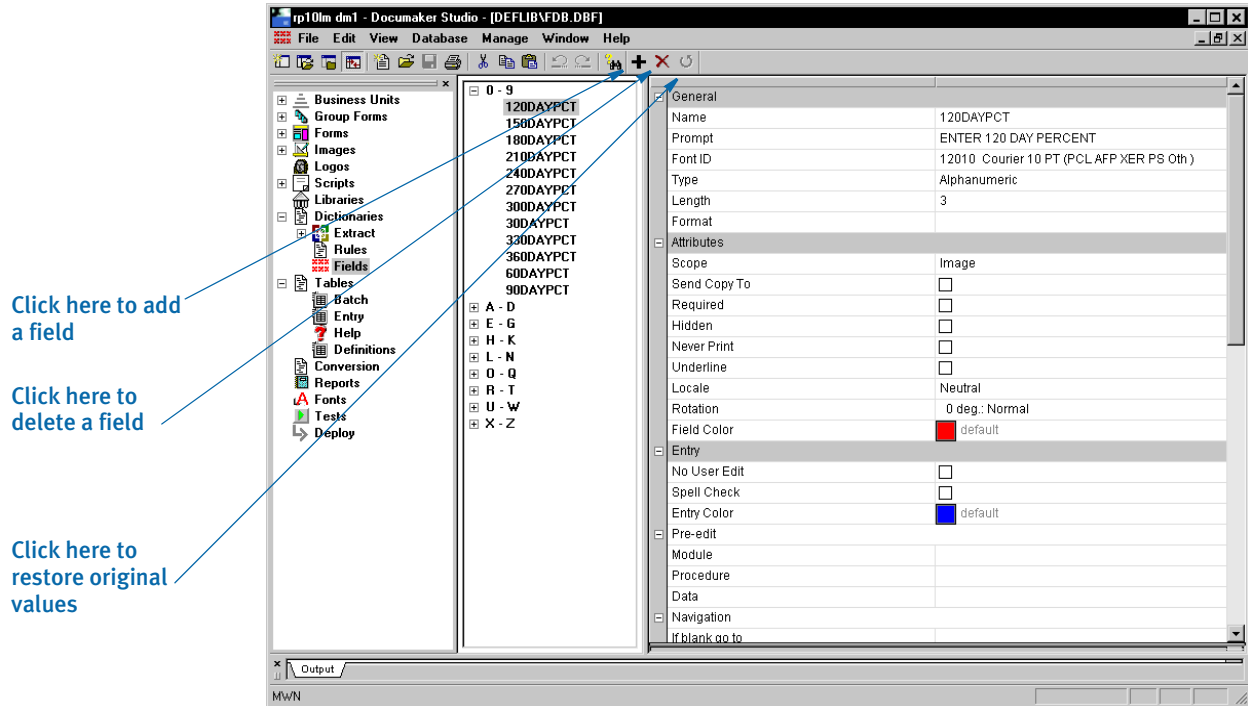
When you highlight a field, its property information appears so you can modify it.

IMPORTING TGA FILES

Follow these steps to import a Tagcommander (TGA) file:

1   Choose Manage, Dictionaries, Fields.

2   Choose File, Import (not Import Workspace files). On the Open File window, double click on Fields.

3   In the Field window, change the Files of Type to TGA, as shown here:
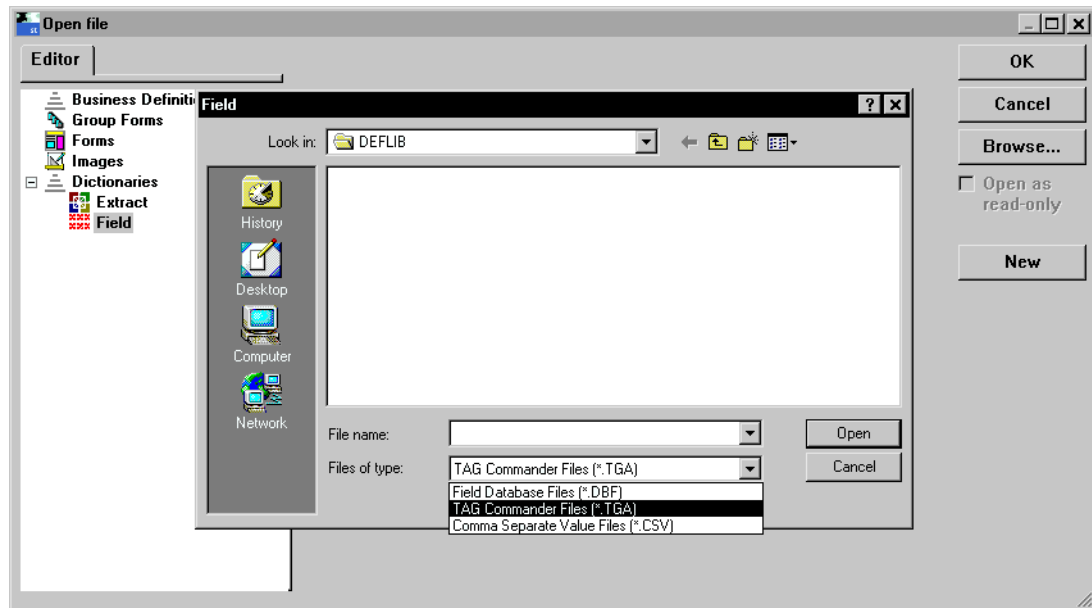
4   Browse for the file you want to import and then press Ok.

Creating Tables

Click on Tables to attach table data to a variable field so it is available during data entry.

There are two ways to create a table file: using the Tables option, or when you create a variable field using the Properties window. The entry screens are the same. The Tables option lets you create tables for the variable fields you create.

Tables make the entry process quicker and more efficient for the end user. Users choose from data in a table rather than keying in information. This is especially useful, for example, when entering lengthy codes. Tables reduce data entry errors and increase speed.

OVERVIEW

The data for a table can either be manually entered or merged from a client data source. A table file can contain many tables. Each table contains many entries. The entries in the tables are the choices available to the data entry user. Each table entry contains two parts: a key and a description. A key might be a short abbreviation, such as GA, and the description provides a longer and more complete explanation of the key, such as Georgia.

Table files reside in the selected master resource library (typically in the Table directory). A table file (DBF) can contain multiple tables identified by unique names. You can create a new table file, or you can open an existing table file to correspond with your image and its variable fields. After you open or create a file, you can add or edit tables in the file to meet the particular requirements of the image.

Documaker uses a variety of database files as input and output for various software modules. For example, the GenTrn program outputs a transaction file that serves as an input to the GenData program. The transaction file is stored as a database file, and as such, the transaction file has a pre-defined record structure. This record structure specifies the length, type, and order of the fields that contain the information in the file.

The software modules that use these database files must have access to the record structure in order to write data in the proper format and to read that data correctly. This is true for all database files. The purpose of DFD (data format definition or just definition) files is to provide record structure information to the software modules.

DFD (Data Format Definition) files contain information defining the structure of the data contained within a database file. Many common system files are stored in database format. For example, in addition to the transaction file already discussed, the new transaction, application index, recipient batch, WIP (work in progress), help, and table files are all stored in database format. These system database files can be in a variety of formats, including Codebase, DB/2, ODBC, and standard sequential files (such as flat ASCII files). The record structure defined in the DFD files remains independent, regardless of the type of database being used — although there are occasionally exceptions for some database specific records.

Not all of these database files require an external DFD file. In some cases, the file's record structure is coded directly into the software modules that access the file. There are currently no external DFD files for Documaker help and table database files for this reason. However, external DFD files are used with other system database files, in many cases, because DFD files allow for easier modification of the database file's record structure, without having to modify the software modules directly.

DFD Files

There are several system database files, meaning that these files are written and read via calls to the DBLIB data base software library. As already mentioned, these database files can be in several formats, including Codebase, DB/2, and flat ASCII. Also, not all system database files require a corresponding DFD file because their record structure is coded in the software modules that access them.

The following are Documaker database files:

- Transaction files

- New transaction files

- Recipient batch files

- Manual batch files

- Application index files

- WIP files

- Help files

- Table files

Of the files listed above, only five require an external DFD file. The use of one other DFD file is optional.

File	External DFD File
transaction files	TRNDFDFL.DFD
new transaction files	TRNDFDFL.DFD
recipient batch files	RCBDFDFL.DFD
manual batch files	RCBDFDFL.DFD
application index files	APPIDX.DFD
WIP files	WIP.DFD (optional – see below)

The WIP file may optionally have an external DFD. If there is no external WIP DFD file, the internal record structure as coded in the program is used. The help and table files do not support the use of external DFD files.

Of the system database files that require external DFD files, only these actual DFD files are required:

- a transaction file DFD

- a recipient batch file DFD

- an application index file DFD

The transaction file DFD is used by both the transaction file and the new transaction file. The recipient batch file DFD is used by both the recipient batch files and the manual batch files. Finally, the application index file DFD is used by the application index file.

So, for installations, these are the only DFD files that possibly need to be configured.

TRANSACTION FILE DFD

The transaction file DFD, commonly referred to as the TRNDFDFL, is used by these modules:

- GenTrn

- GenData

- GenArc

The GenTrn program writes out the transaction file using the TRNDFDFL. The GenData program reads the transaction file and writes out the new transaction file using TRNDFDFL. The GenArc program reads the new transaction file using TRNDFDFL.

The name of the TRNDFDFL is set in the initialization file in the Data control group as follows:

```
< Data >
    TrnDfdFile = TrnDfdFl.Dfd
```

RECIPIENT BATCH FILE DFD

The recipient batch file DFD, commonly referred to as the RCBDFDFL, is used by these modules:

- GenData

- GenPrint

- GenWIP

The GenData program writes out the recipient and manual batch files using the RCBDFDFL. The GenPrint program reads the recipient batch files using RCBDFDFL. The GenWIP program reads the manual batch files using RCBDFDFL.

The name of the RCBDFDFL is set in the initialization file in the Data control group as follows:

```
< Data >
    RcbDfdFile = RcbDfdFl.Dfd
```

APPLICATION INDEX FILE DFD

The application index file DFD, commonly referred to as the APPIDXDFD is used by these modules:

- GenArc

- AFEMAIN

The GenArc program writes out the application index file using the APPIDXDFD. The AFEMAIN program reads the application index file using APPIDXDFD.

The name of the APPIDXDFD may be set in the initialization file in the ArcRet control group as follows:

```
< ArcRet >
    AppIdxDfd = AppIdx.Dfd
```

However, the APPIDXDFD name does not have to be set as shown above provided you are running the system in a Windows environment. If the APPIDX.DFD name is not specified as shown, the system automatically appends a DFD extension to the APPIDX name specified in the same group, which is specified as follows:

```
< ArcRet >
    AppIdx = AppIdx
```

This will not work in an environment that does not support file name extensions, such as MVS or OS/400.

In addition to the specifying the name of the APPIDXDFD, other related settings must be made in the initialization file to use the GenArc and AFEMAIN programs. These changes will be discussed in the Archive/Retrieval setup section.

FIELD SECTION

The FIELD section lists all the fields in the record structures and the order those fields appear in the storage media. The fields are automatically stored internally in the same order they appear externally.

Field	Format Type	Field / Format Description
Name	FIELDNAME can have length limitations, based upon each database type. For instance, when using Codebase, the FIELDNAME length limit is 10 characters.	Name of the field used by applications to reference data in the DFD record. Defaults to FIELDXXX, where XXX is the next sequential field number.
Internal Type	BLOB CHAR_ARRAY CHAR_ARRAY_NO_NULL_TERM DATETIME DECIMAL DOUBLE FLOAT LONG LONG DOUBLE NOT_PRESENT SHORT SIGNED CHARACTER TIMESTAMP UNKNOWN UNSIGNED CHARACTER UNSIGNED LONG UNSIGNED SHORT VARCHAR	Data format of field used internally by Docucorp Binary Large Object NULL terminated string character array not NULL terminated A Docucorp date/time field expressed as a decimal value double precision float single precision 32-bit signed integer long double precision not present in this record 16-bit signed integer a signed character a Docucorp time stamp data type is unknown an unsigned character 32-bit unsigned integer 16-bit unsigned integer variable length character array
Internal Length		Same as External Length except one additional byte is added to length to store null termination byte. Maximum of 255.
Internal Precision		Same as External Precision. Maximum of 255.
External Type	Same as Internal Type format types.	Data format of the field on storage media. Same as Internal Type format descriptions.
External Length		Length of field on storage media. This is valid for data types CHAR_ARRAY & CHAR_ARRAY_NO_NULL_TERM only. It is ignored for all other data types. Maximum of 255 characters.
External Precision		Number of digits after decimal point. This is valid for data types FLOAT, DOUBLE, and LONG_DOUBLE only. It is ignored for all other data types. Maximum of 255 characters.

NOTE: The external record definition must match the actual records written to or read from the database. The internal record definition is provided for easier programming use.

KEY SECTION

The KEY section lists fields that are key fields. This field is only used by DB/2 and indicates that the field is required. The purpose of defining keys is to define columns if a database is being used when WIP and/or Archive is being implemented.

Field	Description
Name	Defaults to KEY01, KEY02, and so on. Can be changed.
Field list	Used for associating the KEYXX with a field already defined in the DFD.
Descending	If using SQL databases, descending works by issuing the correct *order by* command.

Converting Files

Use the Conversion option to convert, change, or compile one or more files.

This chapter covers these topics:

OVERVIEW

The first step is to start a conversion by choosing the Manage, Conversion option from the menu or by double clicking on Conversion in the Workspace tree. The Conversion Type window appears:
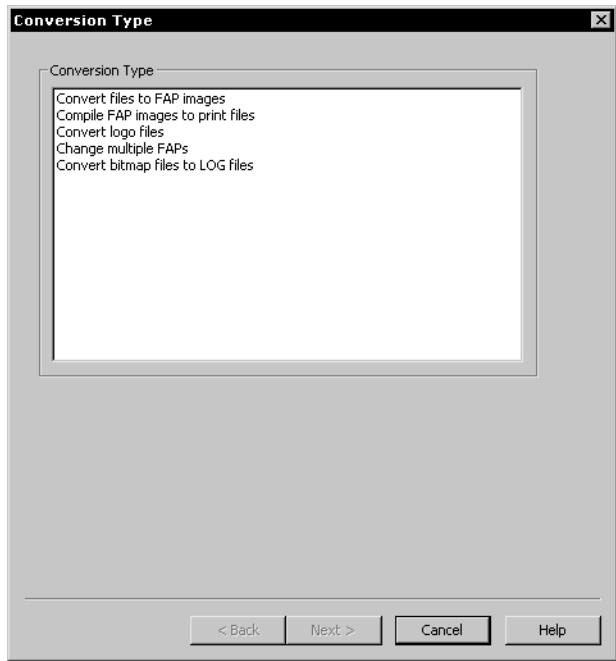
Highlight the type of conversion you want to perform and click Next to move to the next page. Click Cancel to exit Conversions.

To	See
Import files into a FAP file and, optionally, check them into library.	Converting Files into FAP Files on page 274
Compile FAP files into PCL, AFP, or Metacode print files	Compiling FAP Files into Print Files on page 275
Convert graphics files into another format and, optionally, check them into library (if converting into the LOG format)	Converting Logo Files on page 276

To	See
Make changes to FAP files. This includes: • Fixing negative coordinate on an image • Rotating an image 90 degrees • Retaining image dimensions • Adjusting X and Y coordinates • Changing image names • Changing DAL calcs into DAL scripts • Telling Studio to use 4-digit year date formats • Updating variable fields on the image from the FDB • Requiring unique field names • Deleting fields • Recalculating coordinates • Changing fonts Updating DDT files from FAP files • Updating DDT files from the XDB • Combining adjacent text labels • Combining overlapping text labels • Returning to the default colors • Changing to print in color • Mapping alternative font characters Many of these options are present in order to adjust situations in legacy systems. After the changes have been made, the files can optionally be checked into the library.	Making Changes to Multiple FAP Files on page 277
Convert graphics files into the LOG file format and check them into library	Converting Bitmap Files into LOG Files on page 285

NOTE: Other conversion options are currently available by running command line utilities. Refer to the Docutoolbox Reference for more information.

CONVERTING FILES INTO FAP FILES

You can choose to convert to several file types including:

- Rich text files (RTF)

- PCL print files

- Metacode files

- AFP print files

- Docucorp Compound Document (DCD) files

- CompuSet files

NOTE: There are several utilities you can use to batch convert files into FAP files, such as MET2FAP (Metacode to FAP), DCD2FAP (DCD to FAP) and CSET2FAP (CompuSet to FAP). See the Docutoolbox Reference for more information.

Click Browse to select the files you want to convert.
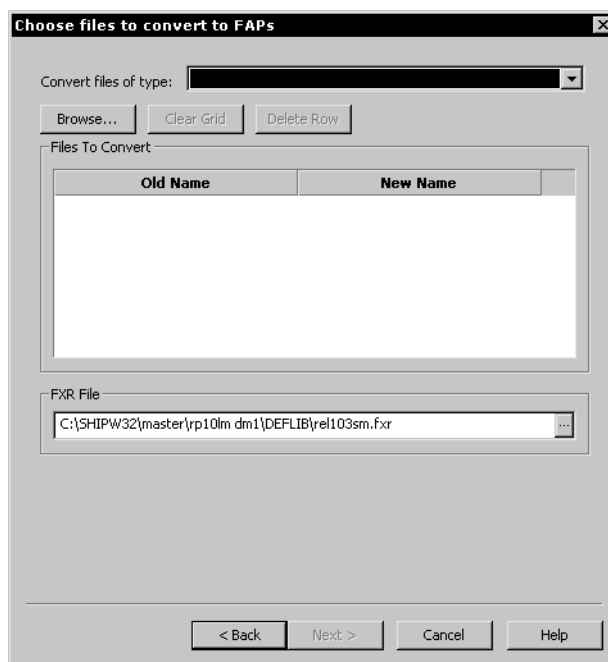
Once you have selected the files you want to change, click Next to move to the Finish page. See Finishing a Conversion on page 286 for more information.

COMPILING FAP FILES INTO PRINT FILES

You can choose to compile to several file types including:

- AFP print files

- PCL print files

- Metacode files

- Postscript files

Click Browse to select the files you want to convert.
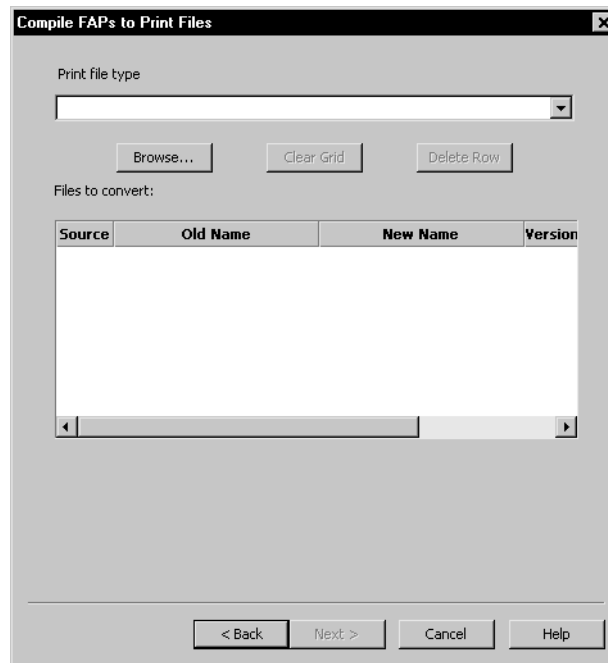
Once you have selected the files you want to change, click Next to move to the Finish page. See Finishing a Conversion on page 286 for more information.

CONVERTING
LOGO FILES

You can choose to convert to several file types including:

- Standard logo files

- Compressed Pack files

- Compressed TIFF files

- Xerox font files

- Xerox image files

- Bitmaps (.BMP)

- Overlays (.OVL)

- Segmented graphics for AFP printers (.SEG)

- JPEG files (.JPG)

Click Browse to select the files you want to convert.
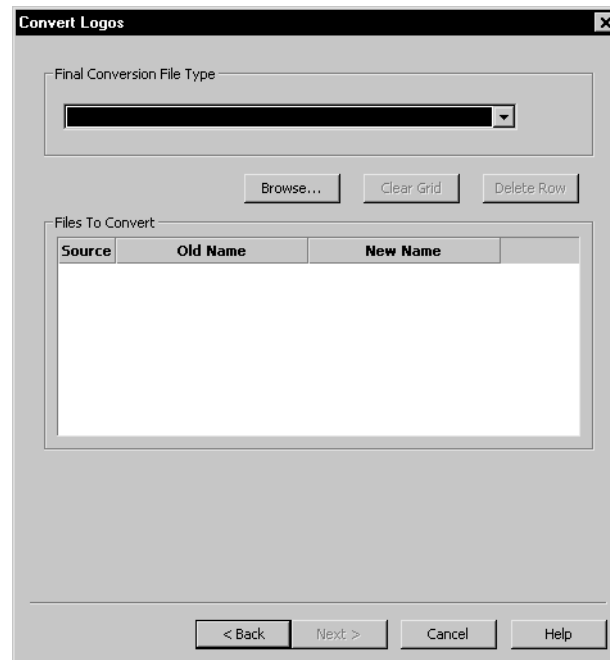
Once you have selected the files you want to change, click Next to move to the Finish page. See Finishing a Conversion on page 286 for more information.

MAKING CHANGES TO MULTIPLE FAP FILES

You make numerous changes to a group of image (FAP) files. Typically, you would use this option to convert FAP files created with older versions of the DAP Development System into newer FAP file versions. You can also use this option to make global changes to a group of FAP files you select.

For instance, you can use this option to:

- Change fonts

- Change field names

- Recalculate font coordinates

- Replace specific characters

- Update FAP files from the Field Database

- Update DDT files from FAP files and the data dictionary

Click Browse to find and select files to run this conversion on. Once the files are selected they appear in the grid.

Once you have selected the files you want to change, click Next to move to the Image Conversions page. See Finishing a Conversion on page 286 for more information.

IMAGE CONVERSIONS

The Image Conversions page lets you define changes that apply to the images you have selected.
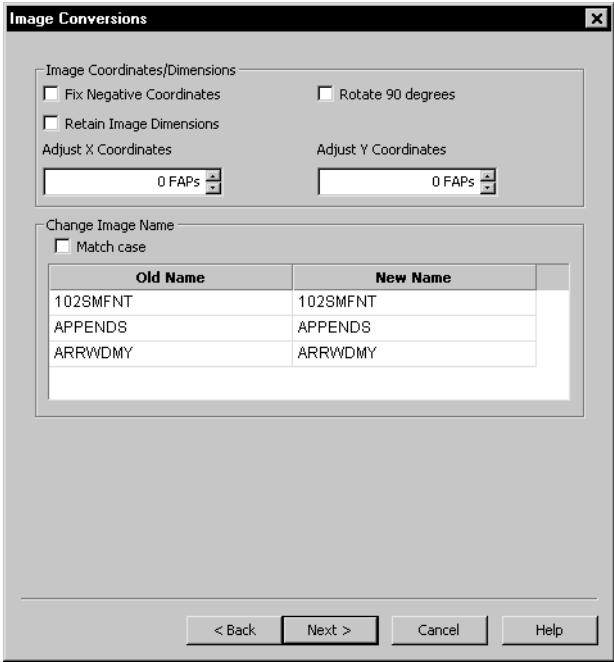
From this page you can:

To	Then
Fix negative coordinates	Check the Fix Negative Coordinates field. Negative coordinates are not produced by Studio, but some users have encountered them when converting print streams.
Retain current image dimensions	Studio increases an images horizontal or vertical dimensions if you place objects outside the images borders. To prevent this from happening, check the Retain Image Dimensions field.
Rotate images 90 degrees	Check the Rotate 90 Degrees field.
Adjust X coordinates	Enter the appropriate value in FAP units into the Adjust X Coordinates field. FAP units are 2400 units per inch. For instance, to adjust by 1.5 inches, you would enter 3600 in this field.
Adjust Y coordinates	Enter the appropriate value in FAP units into the Adjust Y Coordinates field. FAP units are 2400 units per inch. For instance, to adjust by 1.5 inches, you would enter 3600 in this field.

To	Then
Change the names of FAP files	Enter the current name of the FAP file in the Old Name field and the name you wish to change to in the New Name field.

NOTE: Check the Match Case field if you want Studio to consider upper- and lowercase letters when it searches for the FAP files to change.

Once you have selected the options you want, click Next to move to the Field Conversions page.

FIELD CONVERSIONS

The Field Conversions page lets you make changes that apply to several fields at one time.

From this page you can:

To	Then
Change DAL calculations into DAL scripts	Check the Change DAL calculations to DAL scripts field.
Format dates using 4-digit years	Check the Use 4-digit Year Date Format field to change all date fields on the selected images to use 4-digit years. At the turn of the century, it may become difficult to tell which century a 2-digit year value references. Studio adjusts the fields input length if necessary, but makes no other changes to the field.
Update fields from the Field Database	Check the Update Fields from Database field. Studio retrieves all of the information stored in the field database except for the font ID.
Use unique field names	Check the Require Unique Field Names field if you want Studio to check for duplicate field names and warn you if any are found. If Studio finds duplicate fields, it appends an octothorp (#) followed by a number such as 001 to the field name.
Delete fields	Check the Delete Fields field if you want Studio to delete all variable fields from the images you selected. Studio does not delete the fields from the Field Database. You can use this option to turn an image into a template which you can reuse or as another way of creating overlays.

To	Then
Change field names	Enter the current name of the field in the Old Name field and the name you wish to change to in the New Name field.

NOTE: Check the Match Case field if you want Studio to consider upper- and lowercase letters when it searches for the field names to change.

Once you have selected the options you want, click Next to move to the Font Conversions page.

FONT CONVERSIONS

The Font Conversions page lets you make changes that apply to several fonts at one time.

From this page you can:

To	Then
Calculate coordinates	To have Studio recalculate font coordinates, click the appropriate option.
	Typically, you would use the Retain Bottom, Adjust Top Coordinates option so the text would retain its current baselines.
	Click Retain Top, Adjust Bottom Coordinates if you want to keep the top coordinates.
	Click Retain Top and Bottom Coordinates if you do not want Studio to recalculate font coordinates.
Change font IDs	Enter the current ID of the font in the Old ID field and the ID you want to change to in the New ID field.

Once you have selected the options you want, Click Next to move to the General Conversions page.

GENERAL CONVERSIONS

Use the General Conversions page to make general changes to the images you selected.

From this page you can:

To	Then
Update DDT from FAP and XDB	To update the DDT files for the images you selected using existing FAP and Data Dictionary information, check this field. Studio updates the font ID and x and y coordinates. If Studio finds a field name which matches one found in the data dictionary, it updates the remaining DDT information.
Combine adjacent text labels	Check the Combine Adjacent Text Labels field to combine text labels that are very close into one label. Studio combines text labels if the text labels use the same font and have the same baseline. If the text areas are located closer than half the width of a space character, Studio joins the labels without a space.
	If the labels are more than half the width of a space character apart, but less than the width of a space character, Studio joins the labels with a space between them. If the labels are located more than a space apart, Studio does not combine them.
Combine overlapping text labels	Occasionally, conversions from print streams produce text labels which overlap. Check the Combine Overlapping Text Labels field to have Studio correct these kinds of problems.
	Note: When working with an image, you can use the Format, Convert to text label or Convert to text area options to combine text areas and labels you select on a specific image. This option is more often used to when print files are converted to FAP files and each character is turned into a separate label.

To	Then
Broaden text area to prevent wrapping	Check this option to enlarge your text areas to prevent the text from wrapping.
Use the default colors	Check the Return to Default Colors field to reset all colors on the selected images to the default colors.
Print in color	Check the Print in Color field if you want Studio to make all colors printable for the images you selected. This option, in effect, checks the Print in Color field on each objects Color Selection window.
Map alternate characters	Enter the numeric value (0-255) of the current character of the font in the Old Character field and the numeric value of the character you want to change to in the New Character field. For instance, using code page 1004, if you want to change *a* to *ä*, you would enter 132 in the Old Character field and 133 in the New Character field. Note: You can test the characters by pressing the ALT key and typing the numeric value using the numeric keypad. Typically, you would use this option to replace a character which exists in one code page, but not in another. For instance, some code pages include typographical quotation marks (sometimes called smart quotes) while others do not. You can use this option to replace the typographical quotation marks with standard quotation marks (").

Once you have selected the options you want, click Next to move to the Finish page. See Finishing a Conversion on page 286 for more information.

CONVERTING BITMAP FILES INTO LOG FILES
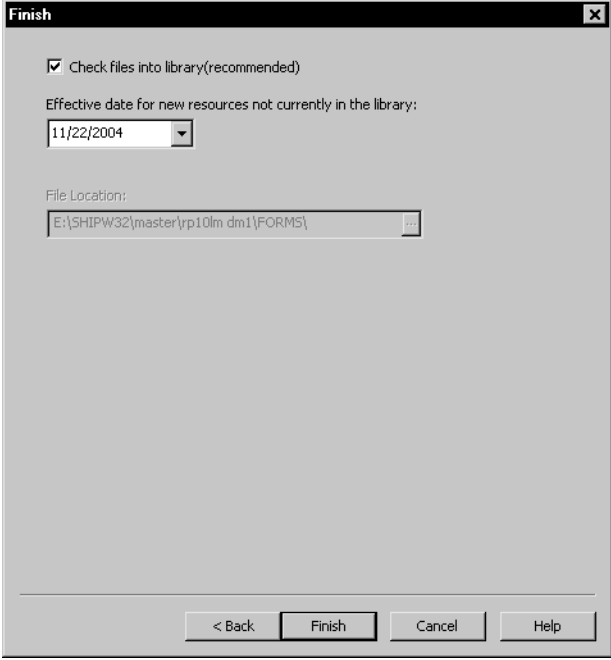
Click Browse to select the files to run the conversion on.
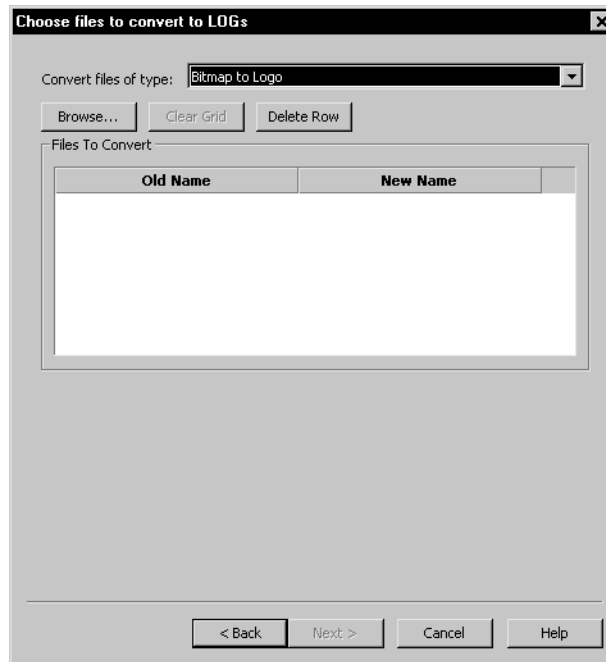
Once you have selected the files you want to change, click Next to move to the Finish page. See Finishing a Conversion on page 286 for more information.

FINISHING A CONVERSION

On the Finish page you can choose to check files into the workspace library or place them into a directory.

Click Finish to complete the conversion.

CHAPTER 13

Printing Reports

The Reports option in the Workspace tree lets you print a variety of system reports. A wizard guides you through the process of selecting the information you want to appear on the report.

Studio displays the result and gives you the option of viewing it on-screen or sending it to your printer.

GENERATING A
REPORT

When you choose Reports from the Workspace tree, the Reports window appears, as shown here.
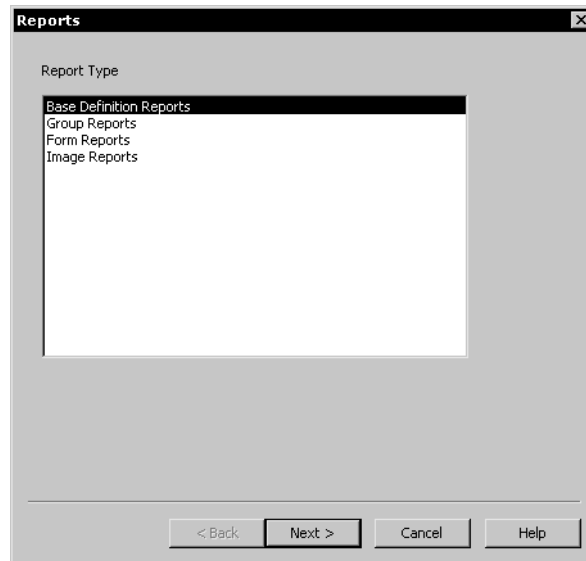
You can choose from these kinds of reports:

- Base Definition Reports

- Group Reports

- Form Reports

- Image Reports

The following steps take you through the steps for printing reports. Image reports are used as an example.

1   Highlight the type of report you want to print and click Next. The Choose Files window appears.
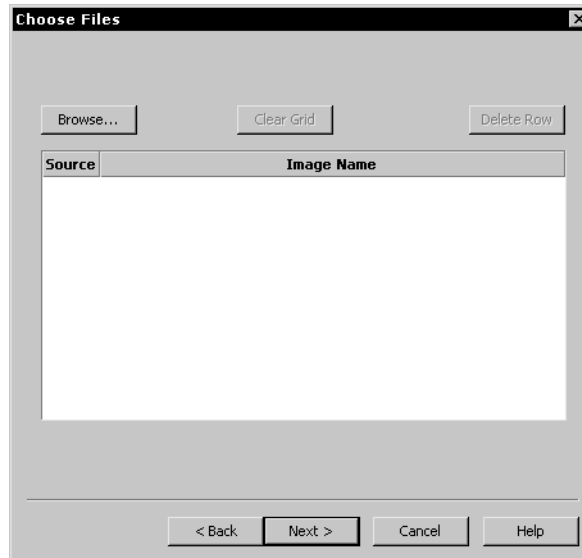
2   Click Browse to choose files from the Open File window.
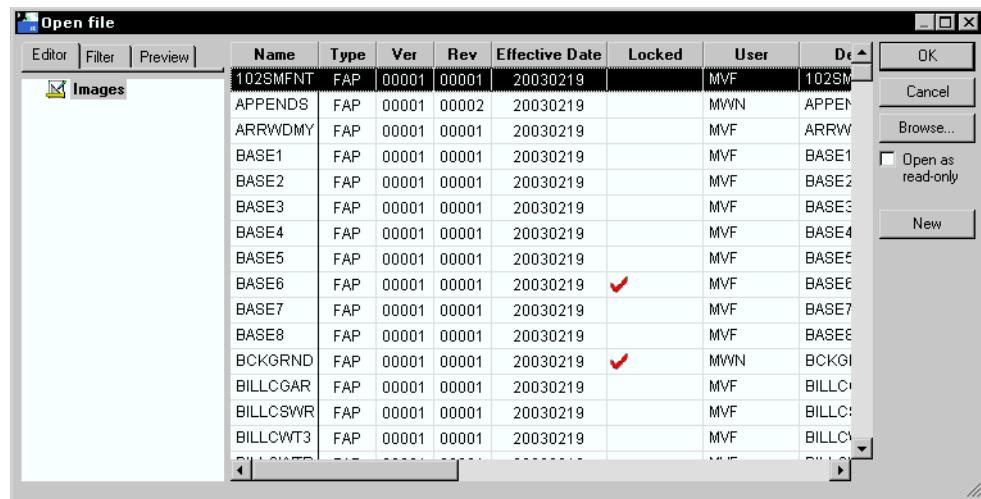
3   Highlight the files you want included on the report and click Ok. Press CTRL to select multiple files. You return to the Choose Files window.
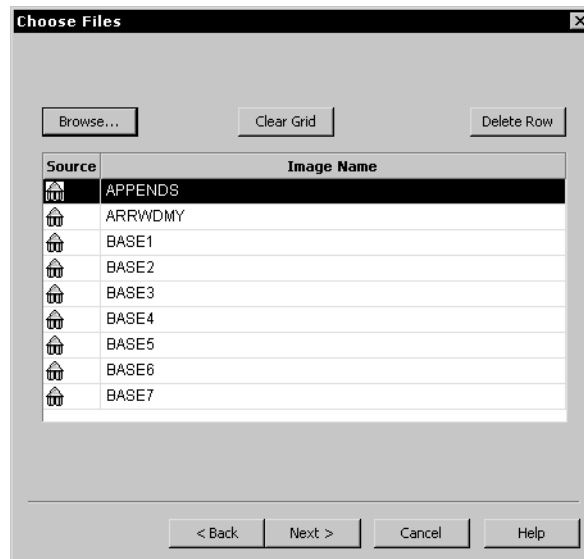
4   The files you selected appear in the grid. You can use the Delete Row button to remove a file of click Clear Grid to remove all files. Once you have the correct set of files listed, click Next. The Generate Report window appears.
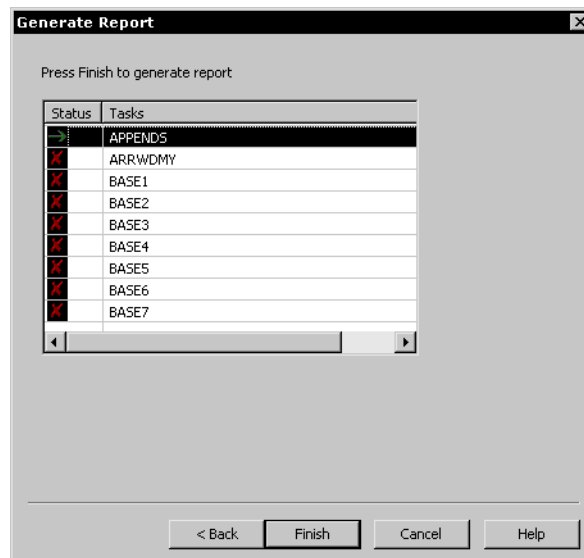
5   Click Finish to generate the report. Studio displays the report on your screen. Here is an example.

The buttons on this window let you print the current report, print all reports, move through the reports, restart the wizard to generate other reports, or close the window.

Handling Fonts

Click on Fonts to open and work with the various fonts you use on your forms. A font is a collection of letters, symbols, and numbers which share a particular design. The system lets you organize sets of fonts for image creation, viewing, and printing needs.

OVERVIEW

Here is an example of the window that appears:

The system shows you
a sample of the font.

Click on these tabs to set the dimensions and other properties
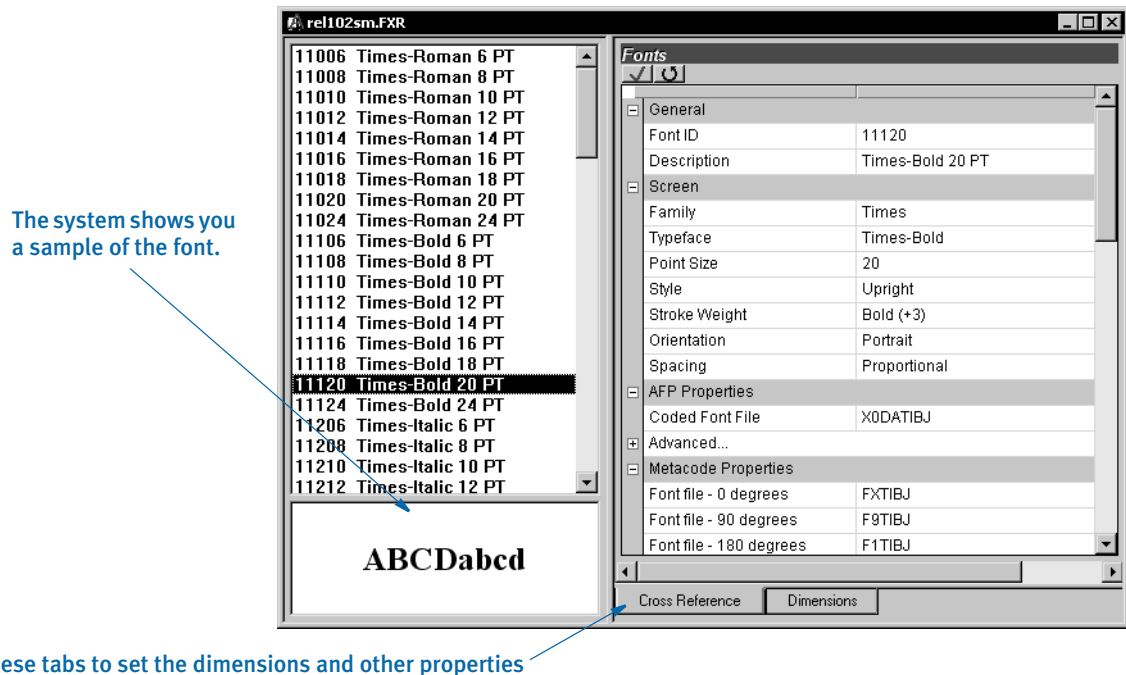
CHANGING THE POINT SIZE

Follow these steps to change the point size when you are inserting a font:
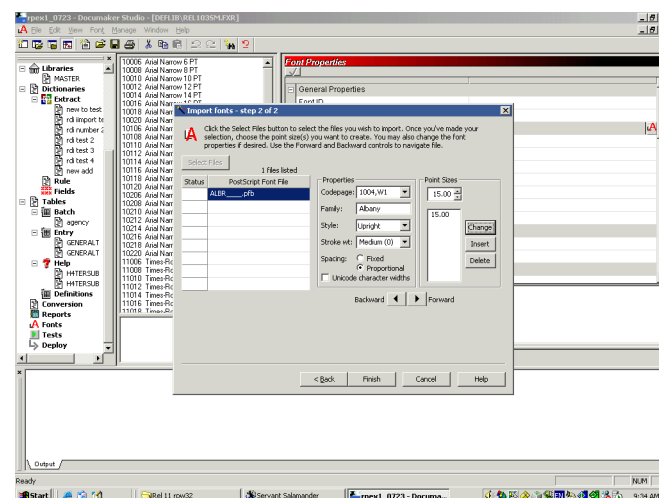
1   Insert a PostScript font.

2   Enter the point size and click Insert.

    To change the point size to something else, enter the new point size in the Point Size field:
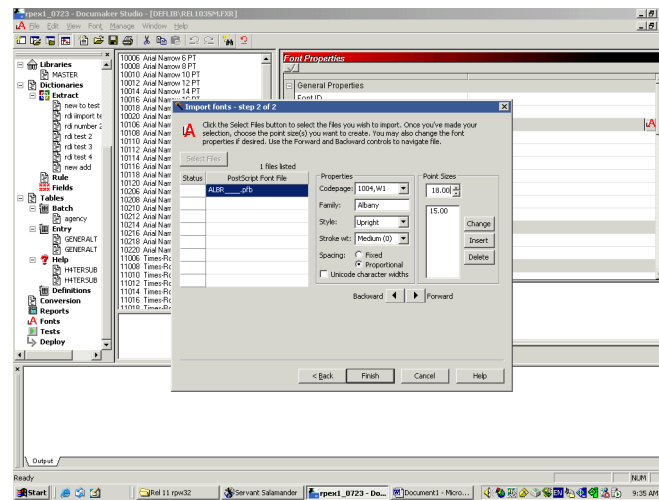
3   Click on the point size of 15.00, then click Change.
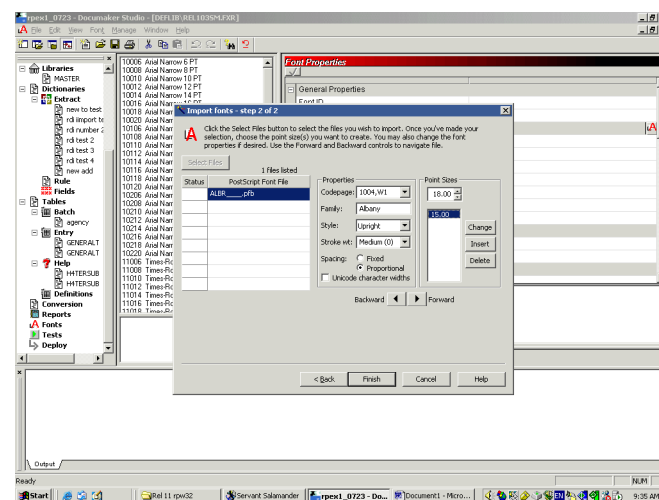
Studio changes the 15.00 to match the value in the Point Size field.
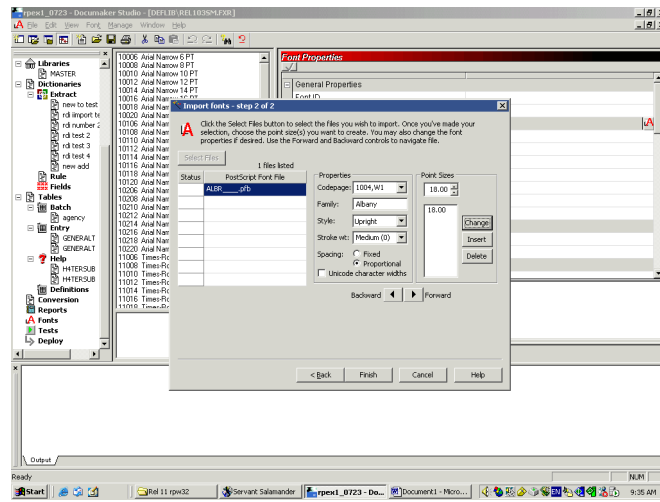
Testing Your Forms

Click on Test to run the forms you have created in a real environment to make sure they perform as you expect them to.

This chapter includes these topics:

OVERVIEW

When running a test, keep in mind Studio does not execute the GenTrn and GenPrint processing steps. When you select an AFGJOB.JDT file you want to use for test, Studio creates a copy of that file and modifies it to exclude some rules and include others. One of the included rules eliminates the GenTrn requirement. Aside from those top level rules replaced in the AFGJOB sections, all the other rules remain where they are.

NOTE: Please note that your original AFGJOB.JDT file is not changed. Studio makes a copy of this file and modifies it for testing purposes. Also, unlike an actual run, no files are saved to disk.

These rules are not imported into the AFGJOB.JDT file for a test run:

- LoadExtractData

- UpdatePOLFile

- ServerJobProc

- InitPrint

- InsNAHdr

- PrintFormset

- WriteOutput

- WriteNAFile

They could cause problems with the way Studio runs the test or else are simply not applicable in the case of the ServerJobProc rule.

NOTE: The Test option does not support custom Proc rules in the JDT file.

Also keep in mind that you do not have to check in resources to include them in a test run. This lets you easily experiment with resources you are developing and only check them in once you have corrected any problems.

Breakpoints

The breakpoint process stops on most other rules defined in the AFGJOB.JDT file. The LoadExtractData rule is, however, an exception. Since a test has no GenTrn processing step, the extract data is already loaded. If you execute another LoadExtractData rule, it means you are reading a *second* transaction before processing the first — effectively skipping ever other transaction in your extract.

Establishing origins and pagination are tasks that happen sequentially. The origin for each is determined when processing encounters that image, until that time the image may appear in an incorrect position. Furthermore, the final pagination process does not take place until you get to a form set- or transaction-level rule on the reverse processing, such as the PaginateAndPropagate rule. This means you may see some really long pages, until this occurs.

The breakpoint that occurs when form set reloads is a new one. This happens anytime the list of form set images changes outside the normal triggering process. So, if you have a DAL rule or some other rule that adds or deletes a form or image beyond normal triggering, this event will be a breakpoint.

Messaging can give you more feedback of exactly what processed and in what order. When things are going along nicely, you may want to turn messaging off to reduce the clutter you see on the screen. When things are not working as expected, you would probably turn on more messaging to get an idea of what is happening.

NOTE: Changes to a logo via DAL or a rule may not appear in the Test view until the final document pagination occurs. The change can appear earlier if the image that contains the logo is also forced *in-lined* due to the growth of a text area.

USING THE SCREEN

Studio places all the tools you need to create test profiles and run tests at your fingertips. The screen is your testing area. It is important to become familiar with the general screen layout and parts of the screen. Understanding the screen layout will help you work quickly and efficiently.

The main window that appears when you are testing your resources is shown here.

Title bar

Menu bar

Tool bar

Workspace

Status bar

Here you set breakpoints

View area

Item	Description
Title bar	The title bar displays the name of the workspace you have open, followed by Documaker Studio, and then the name of the test you are running.
Menu bar	The menu bar provides the list of available pull-down menus.
Tool bar	The tool bar contains a row of icons that provide quick access to common options.
Workspace	The workspace lets you quickly access different items. It also shows which specific resources that are checked out (green check mark), which resources are checked out by another user that you would only have read-only access to (red check mark), and which resources are open in read-only mode or have never been checked into the library.

Item	Description
Status bar	The Status bar shows you any messages generated by the test.
Breakpoints	The Control Panel tab lets you set breakpoints that tell Studio when to pause the test.
View area	Depending on the tab you choose, Studio shows you the forms as they are processed, your AFGJOB.JDT file, your extract file, or the DAL script you are executing.

USING THE MENU BAR

This section introduces you to the pull-down menus which include additional options or are only available when you are working with tests. When you open a test profile, Studio adds the Test menu to your menu bar.

NOTE: For information on the standard menus and menu options which are always available, see Using System Menus on page 14.

Menu	Description
View	This menu include two additional options you can use when running a test: Test Statistics and Test Remote Control.
Test	The Test menu provides you with options for managing your tests.

Using the View Menu

The View menu provides additional options you can use when running a test. When you select Test, this menu appears:
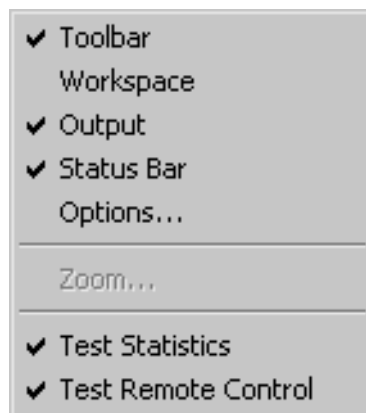
Option	Description
Test Statistics	Use to display or hide the statistics window.
Test Remote Control	Use to display or hide the toolbar icons for starting, pausing, stopping, or stepping through a test.

Using the Test Menu

The Test menu provides you with tools to manage the test profiles you create and clear breakpoints. When you select Test, this menu appears:

Option	Description
Profile Select	Use to select a test profile to run or edit.
Profile Properties	Use to edit the properties you have defined for a test profile.
Clear All Breakpoints	Use to remove all breakpoints you have set.

USING THE RIGHT-CLICK MENUS

Formset View

When running tests, if you click on the Formset View tab to watch the form sets change as they are processed, you can right click to see the following menus.
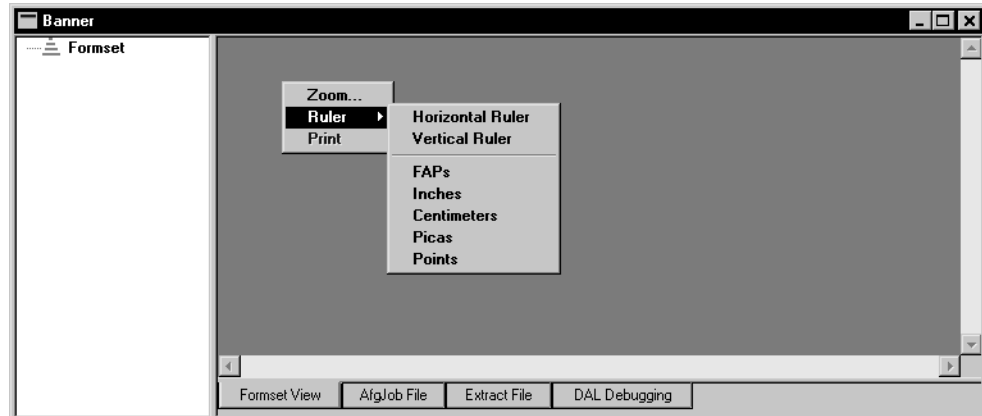
Option	Description
Zoom	Lets you see a larger or smaller version of the form set.
Ruler	
Horizontal	Select to display the horizontal ruler. Select again to remove the ruler.
Vertical	Select to display the vertical ruler. Select again to remove the ruler.
FAPs	Select to use FAP units (2400 per inch) on the ruler.
Inches	Select to use inches on the ruler.
Centimeters	Select to use centimeters on the ruler.
Picas	Select to use picas on the ruler.
Points	Select to use points on the ruler.
Print	Prints a copy of the form set.

AFGJOB File   When running tests, if you click on the AFGJOB File tab to view the JDT file, you can right click in the view area to see the following menus.
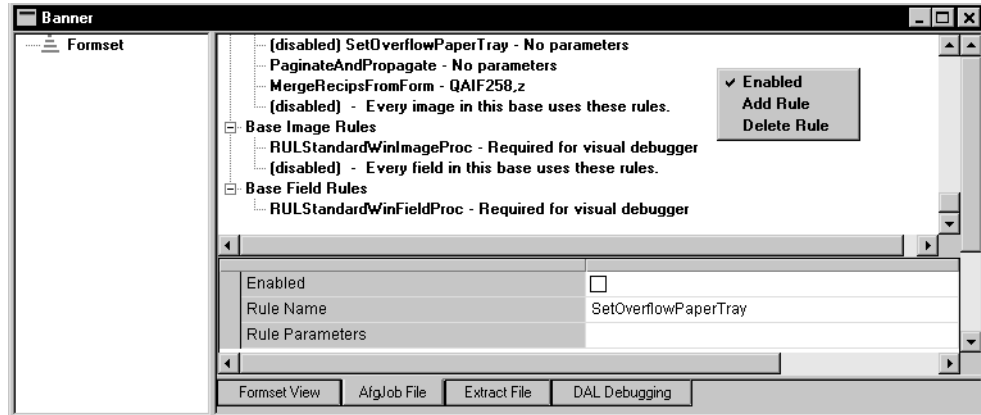
Option	Description
Enabled	Lets you turn on or off the processing of a rule. The check mark indicates the rule is enabled and will be executed during the test.
Add Rule	Lets you add a rule.
Delete Rule	Lets you remove a rule form the AFGJOB.JDT file.

USING THE TOOL BAR

The tool bar provides a quicker way to select options that may be listed on a drop down menu. Here is an example of the tool bar shown when you are working with test profiles:

Standard tool bar icons

Shown below are the tool bar icons that are always available. The icons are listed as they appear, from left to right.

Icon	Name	Description
	New Workspace	Creates a workspace.
	Open Workspace	Opens a workspace.
	Close Workspace	Closes an open workspace.
	Toggle Workspace	Toggles between displaying and hiding the workspace.
	New	Creates a file.
	Open	Opens a file.
	Save	Saves the open file. For instance, if you are making changes to the AFGJOB.JDT file, this would save those changes to the JDT file used for the test — not your original JDT file.
	Print	Prints the current object.
	Cut	Removes an object and places it on the clipboard.
	Copy	Copies an object and places it on the clipboard.

Icon	Name	Description
	Paste	Places an object from clipboard onto the current file.
	Undo	Reverses your last action
	Redo	Reverses last undo.
	Help	Displays the Help window

Test tool bar icons   Shown below are the tool bar icons that appear when you are working with test profiles.

Icon	Name	Description
	Start	Lets you start a test.
	Step	Lets you continue to the next breakpoint
	Pause	Lets you pause a test. Click Start or Step again to resume the test.
	Stop	Lets you cancel a test.

NOTE: You can hide these icons by choosing View, Test Remote Control.

CREATING A TEST PROFILE

Studio includes a wizard to help you set up a test profile to run. This wizard starts automatically if you have no tests set up. If you do have test profiles set up, the following window appears:

These tests have already been set up.

To choose one, double click on it or highlight it and click Open.
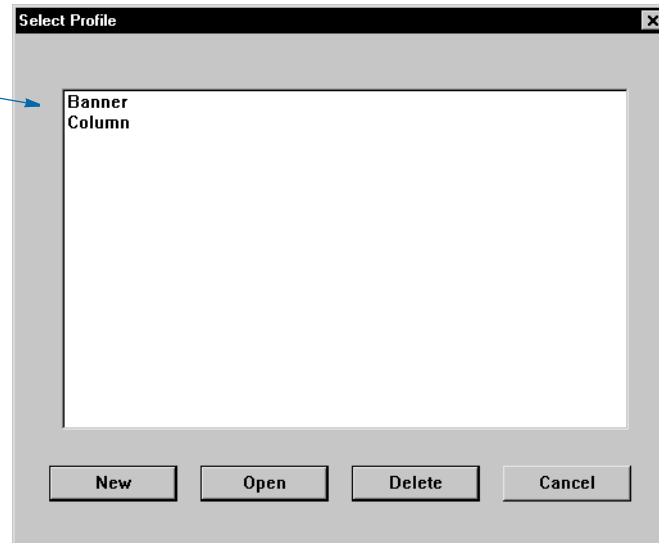
To create a new test profile, click New and follow these steps:

1   When you Click New, the following wizard appears.
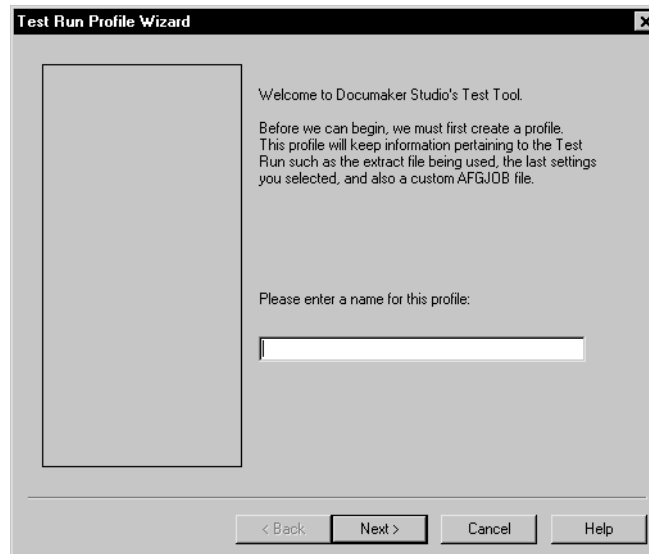
Enter a name for the test profile so you can run it later without having to set up all the test parameters again. Click Next. The following window appears.

Click here to browse for an
extract file.
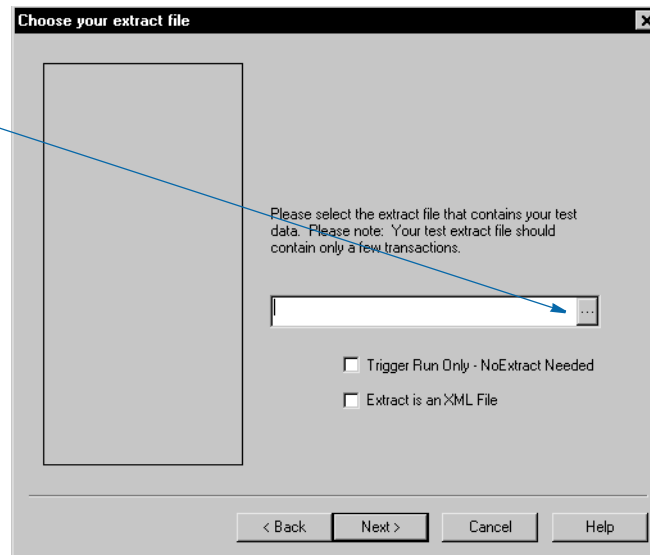
2   Here you select an extract file to use in the test. If you only want to test the
     triggers, check the Trigger Run Only field. For this kind of test, you do not need an
     extract file.

NOTE: See Running a Trigger-Run Only Test on page 313 for more information on
        running a trigger-only test.

If your extract file is in XML format, be sure to check the Extract is an XML File field.

Your extract file can include as many transactions as you like, but keep in mind
that the more you include, the longer it will take for the test to run. The
transactions you do include should be representative of the data you will actually
process to get the best results.

Click Next when you are finished. The following window appears.

Click here to browse for a job
definition (JDT) file.
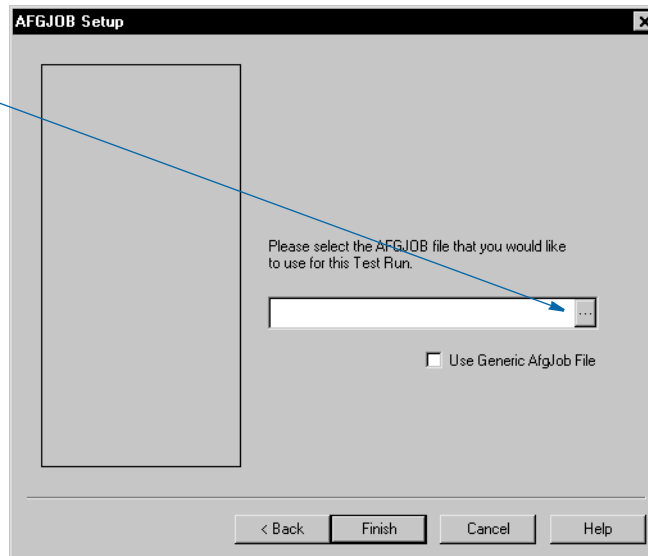
3 On this window you select a job definition file (JDT). This file tells the system how to run as it performs the test. A JDT file is a text file which tells the system which job and form set rules to use as it processes your data. The rules defined in the JDT file are run before the system runs rules assigned to specific fields. An example of a JDT file is the AFGJOB.JDT file.

If you do not have a specific JDT file you want to use, click the Use Generic Afgjob File option.

Click Finish to complete the definition of the test profile. The system then shows you the test window:

Studio displays the name of
the test profile here.

Click here to define
breakpoints.

This part of the Test window
shows you statistics.
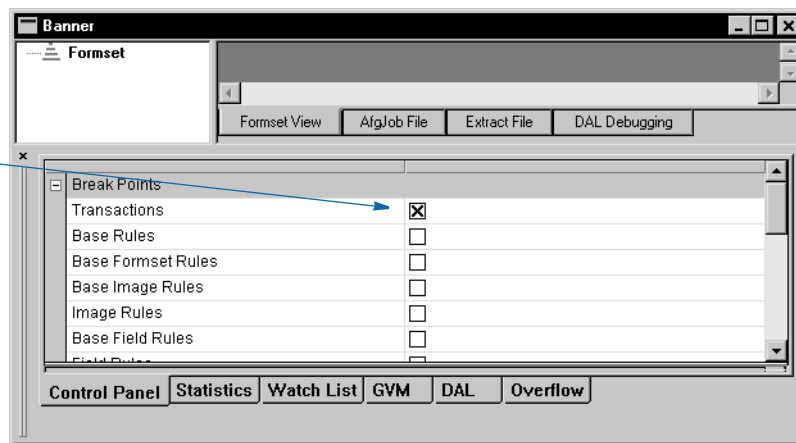
RUNNING A TEST

Follow these steps to run a test profile you have already defined.

1   Open a workspace, then click on Tests. The following window appears.

These tests have already been set up.

To run a test, highlight it and click Open.
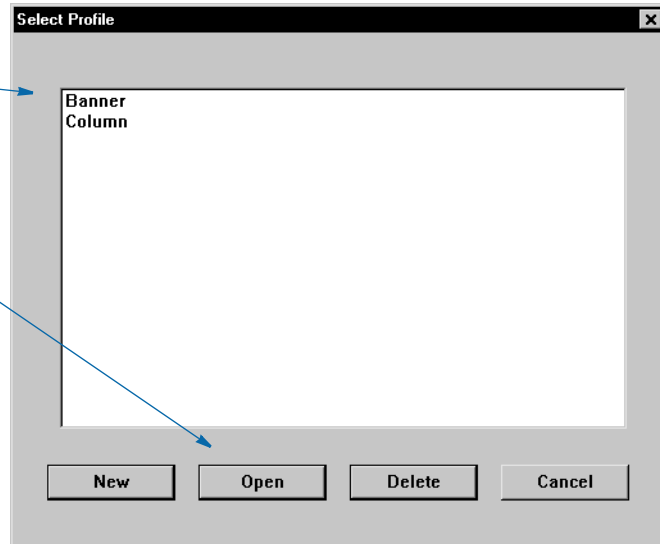
2   Highlight the test profile you want to run, then click Open. Studio displays a window similar to this one.
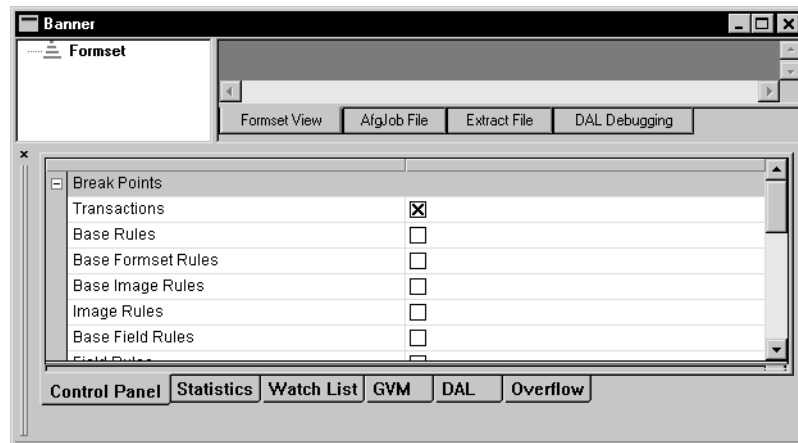
To better monitor the test, you may want to resize some of the components of the window, like this:

NOTE: These examples only show the Test window itself. You can close the workspace to get additional room. When you need to restore the workspace, just click View, Workspace.

Click here to review the JDT file being used during the test.

Click on this tab to see changes to the form set as they take place.

Click here to view the extract file being used. Studio lets you view extract files in either ASCII or XML format.

Click here to view the DAL script being executed
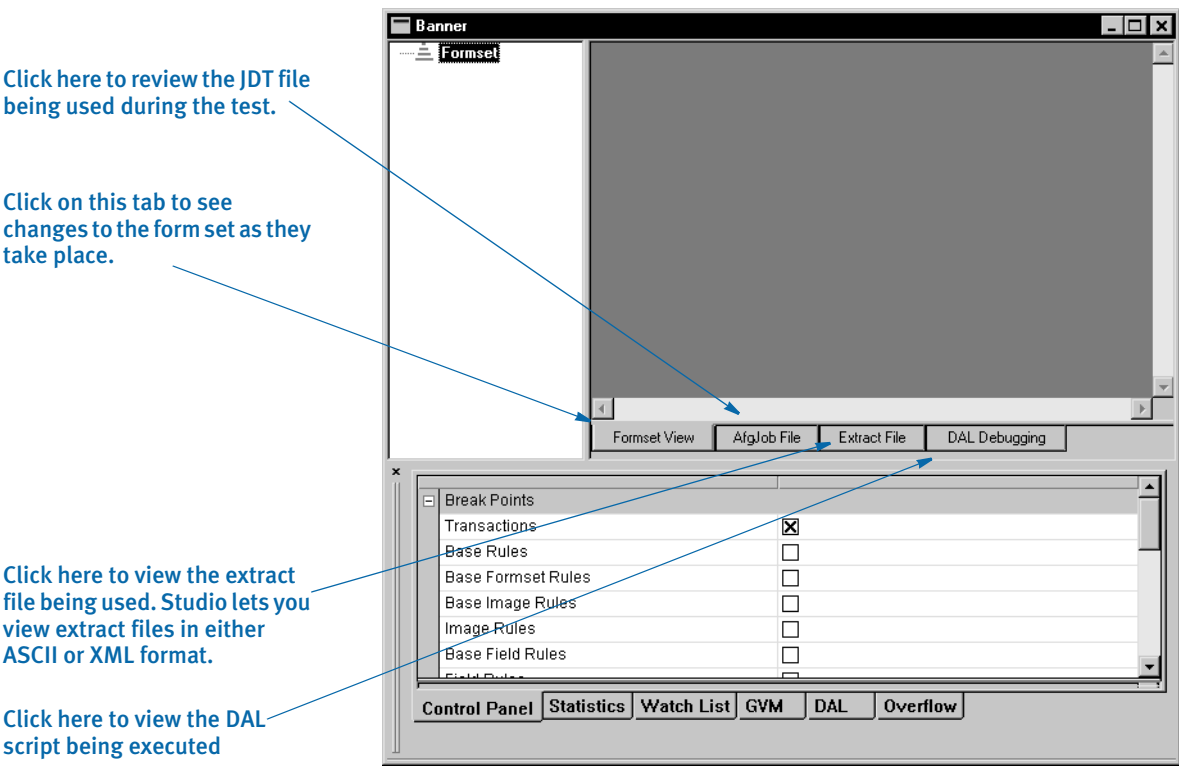
3 You can click on these tabs to change the view:

To...	Click
Set breakpoints on transactions and rules, turn messages on or off. manually trigger form and images, and debug DAL scripts. Keep in mind you can change breakpoints while running a test. For instance, you can	Control Panel
View information on the current transaction, rule, and image,	Statistics
Set up a list of DAL, GVM, or overflow variables to watch. To add a variable, click on the plus sign (+). To remove a variable, click on the red *X*.	Watch List
Define the GVM variables for the watch list. To add a variable, click on the plus sign (+).	GVM
Define the DAL variables for the watch list. To add a variable, click on the plus sign (+).	DAL
Define the overflow variables for the watch lis.To add a variable, click on the plus sign (+).	Overflow

NOTE: To see a list of the GVM, DAL, and overflow variables, click the Start icon on the toolbar. As Studio runs through the test, it adds the variables it encounters onto the appropriate tab. Once the test finishes, you can then add the variables you want to watch onto your watch list.
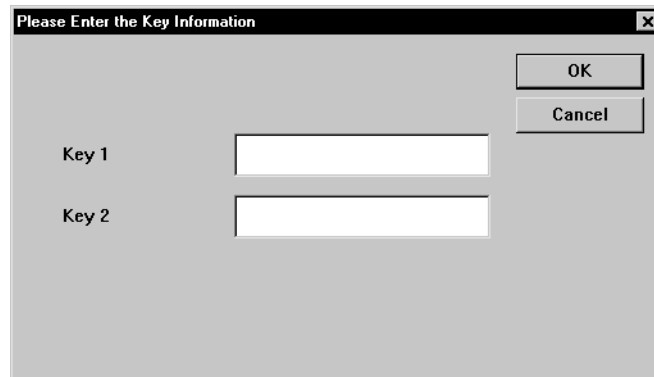
4   To start the test, click Start on the tool bar, as shown here:

To start a test, click here

Studio displays messages here
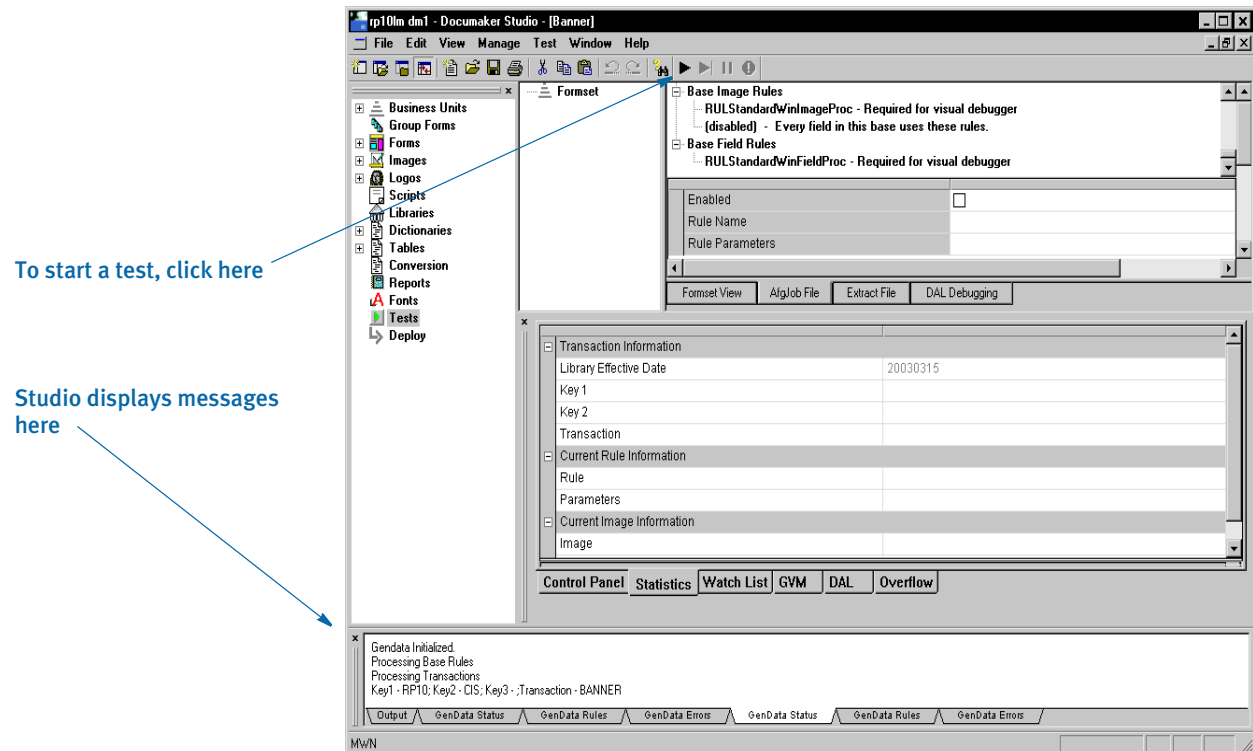
When you start the test, the system runs and relevant messages are shown in the status bar.

RUNNING A TRIGGER-RUN ONLY TEST

When you run a trigger-only test, Studio displays the following window:
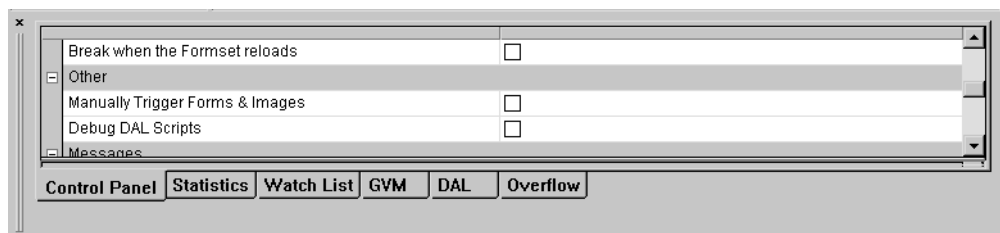
Use this window to enter the Key1 and Key2 fields you want to trigger on.

MANUALLY TRIGGERING

You can use the Manually Trigger Forms and Images option to tell Studio you want to manually trigger copies of the forms that comprise the form set.

When you choose this option and start a test, Studio displays the following window so you can specify the forms and images you want to trigger on.
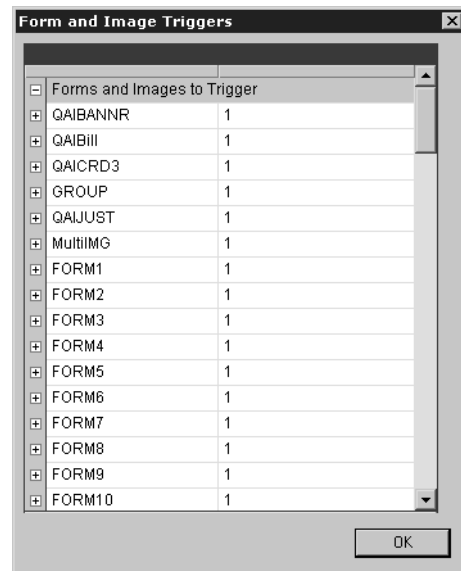
This can be useful when you need to test complicated scenarios without robust data.

CHANGING TEST PROPERTIES

You can change the properties associated with a test using the Test, Profile Properties option. This includes modifying these properties:

Property	Description
Extract File	Here you can specify a different extract file to use during the test.
Extract File is in XML Format	Check this box if the extract file is in XML format.
Import a new AFGJOB Rule Set	Here you can specify a different AFGJOB.JDT file to use during the test.
Use Library Files only	Check this box if you only want to use resource files stored in the library.
Run as User	This lets you specify the user ID you want the test to run under.

When you choose this option, the following window appears:
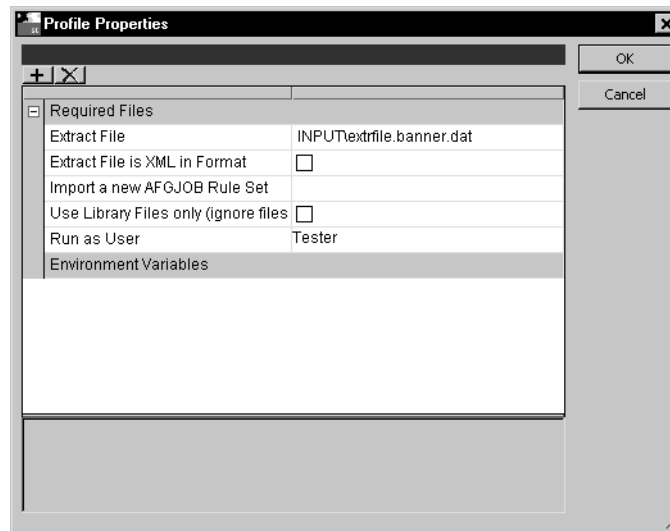
Make the appropriate changes and click Ok to accept them or Cancel to exit without making changes.

MODIFYING THE AFGJOB FILE

You can modify the AFGJOB.JDT file Studio uses when running a test by clicking on the AfgJob File tab, as shown here:

First, click on the AfgJob File tab to display the JDT file

If you then highlight a rule, you can enable or disable it, select another rule, or modify the rule parameters
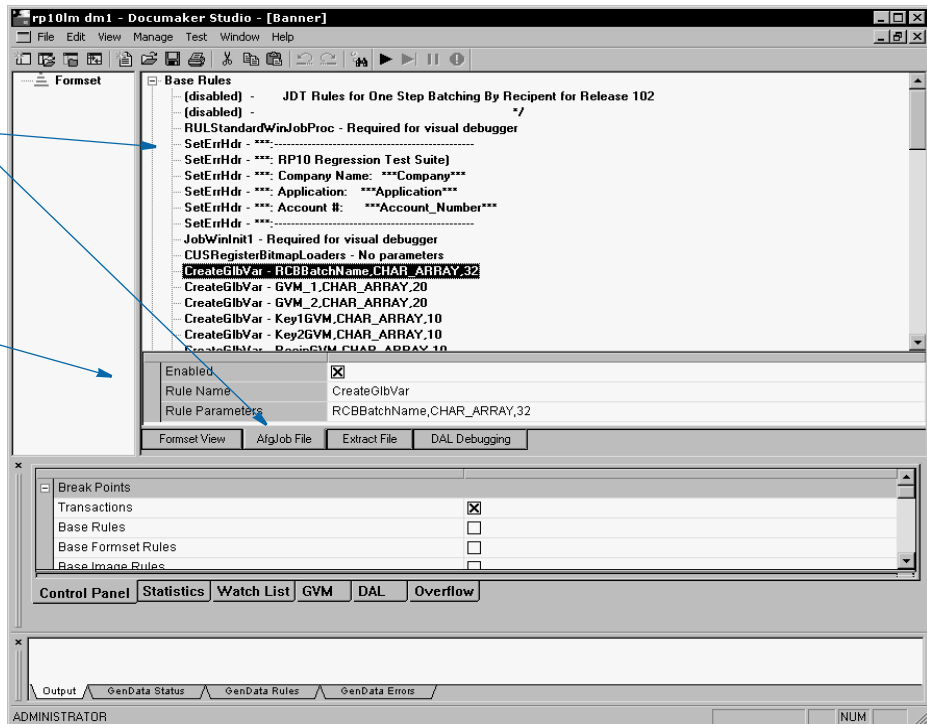
First, highlight the rule you want to modify, then...

To	Do this
Enable or disable a rule	Click the check box in the Enabled field. If you disable a rule, Studio does not remove it from the file, but will skip over it when running a test.
Change the rule	Enter a new rule in the Rule Name field.
Change rule parameters	Enter the new parameters in the Rule Parameters field.
Delete a rule	With the rule highlighted, right click and choose Delete Rule. Remember that you can also disable the rule if you want Studio to skip it during a test. The Delete Rule option removes it from the JDT file.
Save your changes	Click the Save icon on the toolbar.

NOTE: You cannot modify extract files or DAL scripts when running tests.

DELETING A TEST

Follow these steps to delete a test.

1 Click on Tests in the Workspace. The following window appears.

These tests have already been set up.

To delete a test, highlight it and click Delete.

Select Profile

Banner
Column

| New | Open | Delete | Cancel |
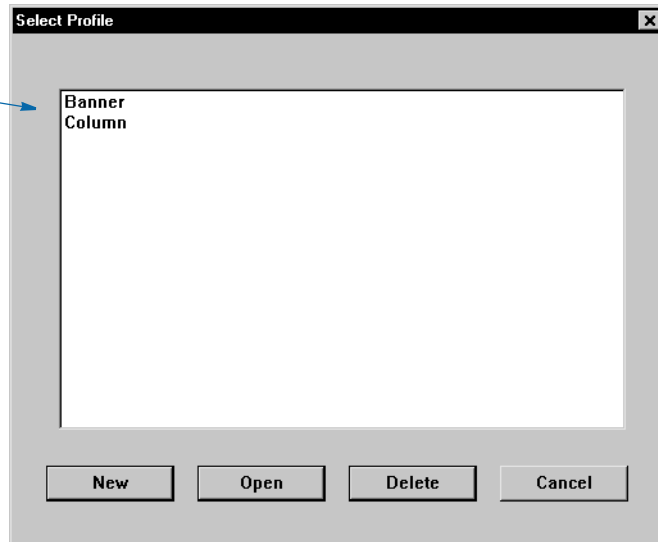
2 Highlight the test you want to delete, then click Delete. Studio lets you confirm your decision to delete the test.

Documaker Studio

⚠ Are you sure you wish to delete Recipients2?

| Yes | No |
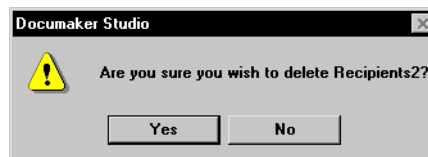
Click Yes to delete the test.

Deploying a Library

You develop resources in Studio within the confines of your workspace and the directories you defined for that workspace. When you decide to move all or part of the resources you have developed into testing or production, you copy or *deploy* the resources to another location.

Studio includes features to make this process quick and easy to do. This chapter discusses these features and includes these topics:

OVERVIEW

You can have as many deployments as you need. For instance, you might have an initial test location, a secondary test site, a pre-production site, and a production location. Using the deployment features of Studio, you can easily manage these deployments.

You may also do temporary or occasional deployments for reasons other than testing and production. For instance, you might do a deployment to a secondary location like a backup server or a CD writer. Also, you might deploy to a laptop drive when you are going to take a trip and need to take resources with you. Anytime you intend to make a copy of development resources, it is a deployment.

NOTE: A deployment only copies resources that have been checked into the library.

CREATING OR RUNNING A DEPLOYMENT

To run a deployment, double-click on Deploy in the workspace window or choose the Manage, Deploy option from the menu.

The Deployment wizard appears to lead you through the steps necessary to do a deployment of your resources. You can accept the defaults and simply do a total deployment or you can manage the details of the deployment via the wizard.

When you choose Deploy, the Deploy Workspace window appears.

Click here to browse to another directory.

This window includes these fields:

Field	Description
Name	The name for the deployment. This is not the same as naming the workspace. This name is simply a short descriptive identifier for how you want to refer to the deployment you creating or updating.
Path	The location of the deployment. Notice the name of the deployment is combined with the location path to build the appropriate subdirectory name for your deployment.
Deployment Script	The deployment script to use. You can identify a previously saved deployment script to use or assign a name to a new script you want to create.
Save Deployment Script	Indicates whether you want the deployment script to be updated with the choices you make as you continue using the wizard. If you do not check the box, the choices you make are not saved, meaning this is a one-time deployment.
	If you do save or update the deployment script, the choices you make on the remaining wizard windows are saved and will be available if you decide to deploy the workspace resources again.
Flat File Deployment	Check this box to run a flat-file deployment or leave it unchecked for a library deployment.

Once you have identified the name and location of the deployment and have either accessed an existing script, entered a new script, and checked whether you want to save the new script, click Next to go to the next step in the wizard. This step differs, depending on whether you chose a flat-file or library deployment.

If you chose a	Go to
library deployment	Creating a Library Deployment on page 323
flat-file deployment	Creating a Flat-File Deployment on page 325

CREATING A LIBRARY DEPLOYMENT

For library deployments, you must choose the library type. On the Choose Library Type window you define the library specifications (type, effective date, and name) you want to use when the resources are deployed.

Depending upon the type of library database you selected, there may be additional questions to answer. For ODBC databases, you must first create the data source names using the Windows Control Panel before Studio can address the library database.
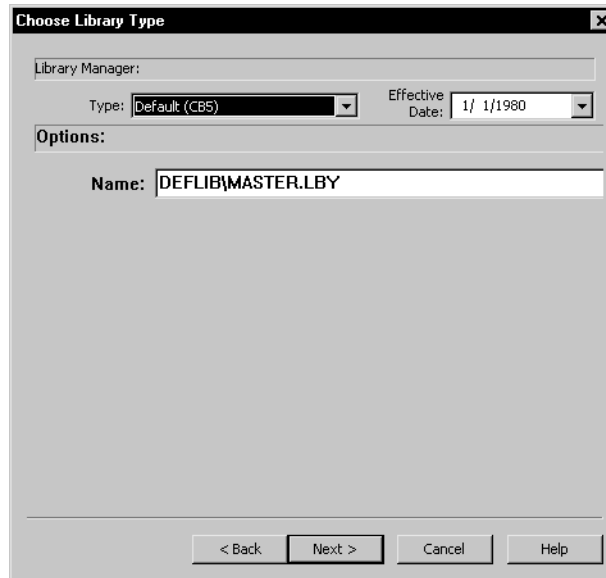
Once you have made your selections, click Next. The Library Resources window appears.
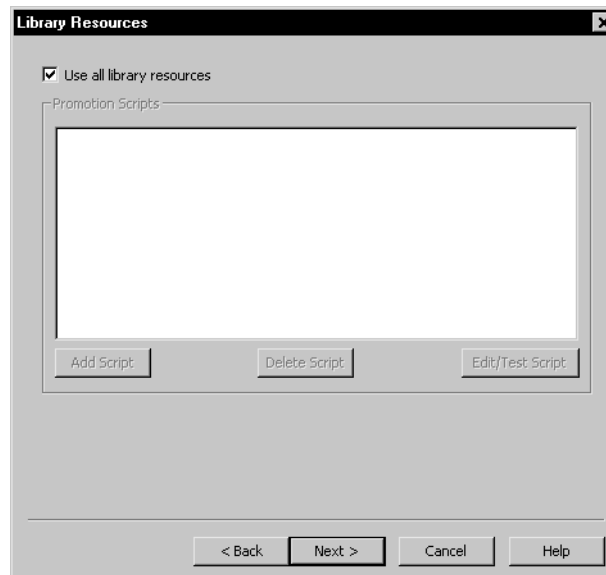
Indicate if you want to use all the library resources. Not checking this option and clicking the Add Script option tells Studio you want to select specific library resources to deploy.

Add Script lets you name one or more promotion scripts you want to use to move resources to the deployment destination. The promotion scripts you choose are shown in a list. You can add or delete them as needed. In addition, you can click Edit Script to edit or create promotion scripts. This takes you to the Library Promotion window. There you can develop your script and test it before including it in your list.

Once you have identified the library resources you want to send to the deployment destination, click Next to move to the Additional Resources window.

CREATING A FLAT-FILE DEPLOYMENT

In a flat-file deployment, resources are extracted from your development library and copied as external files (not as a library) to the appropriate directory structure in the destination. Studio selects the resources it will move based on the effective date you enter.

To do a flat-file deployment, check the Flat-File Deployment option and enter an effective date.

Click here to display the calendar and select an effective date

Check this box to do a flat-file deployment

Press ESC to close the calendar.

Once you have finished, click Next to move to the Additional Resources window.

ADDITIONAL RESOURCES

You may have files that are not stored in the library but are required by your runtime setup. You use the Additional Resources window to include these kinds of non-library resources in a deployment.

The Additional Resources window lets you define a list of subdirectories that contain supporting files to copy to the destination deployment.
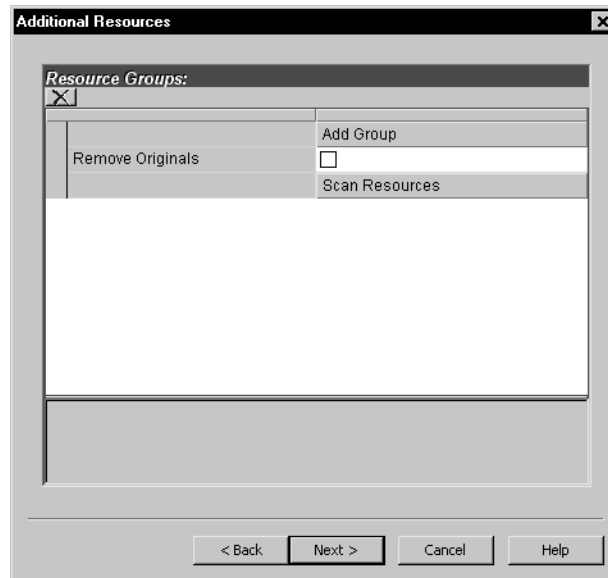
As a rule, Studio expects to copy a file to the same *relative* location in the destination as the directory name where it resides in the development source. For instance, if there are DFD files in the DEFLIB\ directory of your development workspace, then Studio expects to copy these files into the DEFLIB\ location within the deployment. Likewise, DAT files found in the TABLES\ subdirectory of the workspace would be copied into the TABLES\ subdirectory of the destination location.

This helps ensure that the deployments resemble the development environment and also reduces the number of configuration (INI option) changes you have to make when synchronizing resources.

For each major category shown on the dialog, you can include or exclude those resources from the deployment process by simply checking or unchecking the appropriate box.

If you should want to include only certain files of a given category, you can drill down to the individual file list and check or uncheck the files included in that list.

The Other Resources category is where you identify files that are not known to the workspace. Here you can add files including the source location and destination location where the file should be copied.

When you are done identifying the additional resource files you want included in the deployment, click Next to move to the INI Settings window.

INI SETTINGS

You can modify INI options for your deployment. The INI options shown here are for your deployment not the currently open workspace.

By default, if this is your first time to deploy to this location, the workspace settings will be used as the basis for your deployment settings.
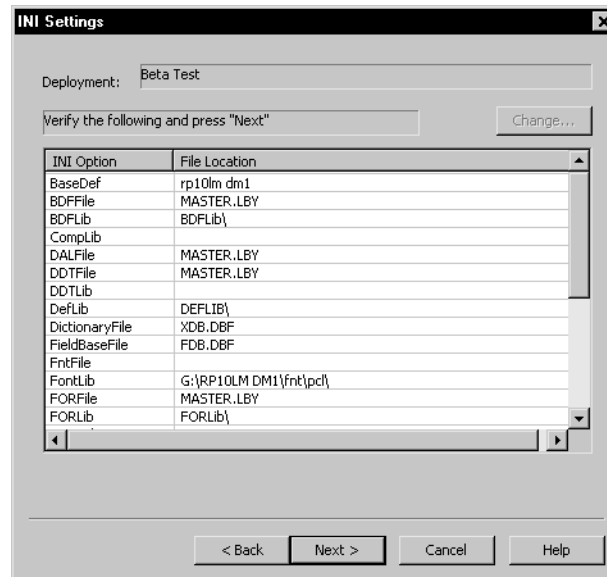

Once you finish, click Next to move to the Processing Deployment window.

PROCESSING THE DEPLOYMENT

The final wizard window shows you the steps that occur to complete the deployment process. When you click Finish, the deployment process begins and as each step is started, a check mark appears next to the task item.

As the deployment proceeds, you may see messages scrolling through the output window. These messages reflect the details of the deployment process to your deployment location.

When all tasks have been completed, the Deployment wizard closes and the success or failure of the deployment is indicated in the Status message.
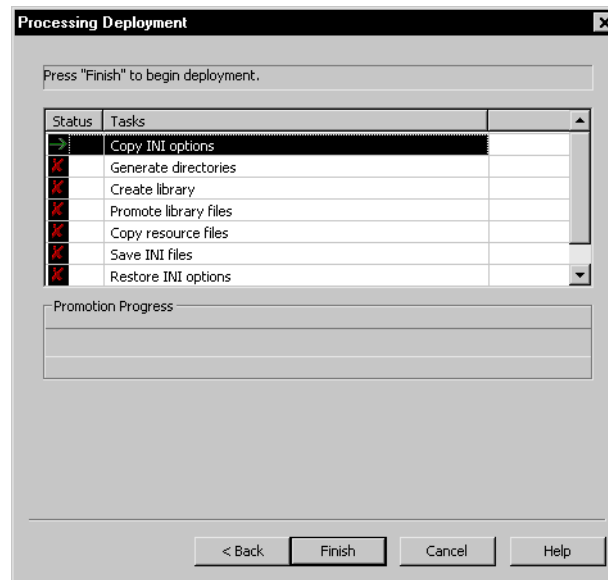
Index

A

B

C

CARFile 189
CARFILE.DFD file 206
CARFileDFD option 207
CARFiles
    creating libraries 189
categories
    defining 73
check in
    defined 173
check out
    defined 173
Class field 223, 229, 232, 233, 235, 238, 241, 245, 250,
        253
Class option 195, 200, 204, 210
classes 46
clipping
    logos 153
copy counts
    using variables 110
Create a New MRL option, 26
create dates
    overview 181
Create New Workspace option 24
CreateIndex option 195, 200, 204, 210, 257
CreateTable option 191, 195, 197, 200, 204, 210
CreateTime field 181, 183, 185, 186

D

DAL variables 111
DALFile option 187, 190, 193, 198, 203, 208
Data Entry check 124
Database option 195
DB2 42
    using the native driver 191
    using the ODBC driver 196

DBHandler option 194, 195, 199, 200, 203, 204, 209
DBTable option 194, 199, 203, 209
DDT files
    eliminating 3
    stringent checking 179
DDTFile option 190, 193, 198, 203, 208
DDTLib option 227
Debug option 195, 200, 204, 210, 256
definition tables 12
DEFLib option 227
dictionaries 12, 20
Documaker RP
    and Library Manager 172
Documaker Server
    and libraries 186
Documaker Workstation
    and libraries 183
    and Library Manager 172
Documanage 27
Docupresentment
    and Library Manager 172, 187
DPRInitLby rule 187
DPRRetrieveFormset rule 188
dprtrc.log file 256

E

Edit menu 18
Effective Date field 27, 222, 229, 235, 237
effective dates
    defined 173
    overview 177
    printer resource files 178
    ShowEffectiveDate option 183
    versions and revisions 178
Enable_Debug_Options option 256
entry tables 12
ErrFile option 179
ErrorOnMissingFile option 179
extract files 12
    Primary Extract Dictionary field 69

F

FAP files
    and DDT files 3
fields 12
File Information window 188
File menu 16
Font check 124
font cross-reference
    defining 69
font cross-reference files 26
fonts 12, 21
    effective dates 178
FORFile option 190, 193, 198, 203, 208
FORLib option 227
FormFile option 187, 190, 194, 199, 203, 208
FormLib option 227
forms 12, 20
    assigning categories 73
    effective dates 178
    terminology 88
FSIUSER.INI file
    creating workspaces 25
FXR File Name field 69

G

GetRunDate rule 182, 186
group forms 12
GRPFile option 190, 194, 199, 203, 208
GRPLib option 227
GVM variables 111

H

Help menu 23
hooks
    defining 74

HTML file
    stacking objects in order 149

I

images 12, 20
importing
    a signature or logo 151
Increment Version field 222, 228
Insert menu 121

J

JPEG files
    converting 150

K

KeepFiles option 256

L

LBRYMGR utility
    and DB2 191
    and DB2 ODBC driver 196
    Oracle ODBC driver 207
    SQL Server ODBC driver 202

P

Passwd option 195, 200, 204, 210
PCL 49
PNG files
    importing 149
PNG formats 149
positioning
    JPG objects 149
PostScript 49
Poweroffice
    using with Library Manager 211
primary extract dictionary
    defining 69
Primary Extract Dictionary field 69
printers
    resource files 178
Project field 223, 229, 232, 233, 236, 238, 241, 245, 250, 253
projects 46
promotion
    defined 173

Q

Qualifier option 200, 204, 210

R

Recip_Names control group 72
recipients 48
    defining 72

RecStatus column 226
relative paths 25
RemoveImageMissingDDT option 179
reports
    business unit 75
resizing
    logos 153
Resolution option
    Logo Manager 154
resources
    checking in 228
    checking out 226
    editing information 237
    unlocking 230
response files
    defined 173
RetrieveVersionInfo option 184
reversing
    logos 152
revision
    defined 173
Revision field 232, 235, 241, 245
revisions
    overview 178
    run dates 181
    stringent checking 179
rotating
    logos 152
Ruler Units option
    Logo Manager 155
rules 12
run date
    format 181
run dates
    overview 181

Window menu 22
WIP
    and libraries 185
workflow 188
Workspace 90, 93, 115, 141, 159, 300
workspaces
    creating 24
    joining 30
    new 10

X

Xerox
    converting font files 150
    converting image files 150
Xerox font
    importing signatures or logos 151

Z

Z-Index option 149