

MX



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FLASH[™]MX
2004

Getting Started with Flash

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CONTENTS

CHAPTER 1: Getting Started	7
About Flash	7
About the Flash Player.	7
What's new in Flash.	8
New features available in both Flash MX 2004 and Flash MX Professional 2004	8
New features available in Flash MX Professional 2004 only	10
Guide to instructional media.	11
Using the Help panel	11
Using the Start page	14
CHAPTER 2: Installing Flash	15
System requirements	15
Installing and activating Flash	16
Upgrading from Macromedia Flash MX 2004 to Macromedia Flash MX Profes-	
sional 2004	17
Switching between trial mode editions	17
Purchasing a Flash edition from trial mode.	17
Changing or removing Flash Player	17
Configuring a server for the Flash Player	18
About Flash Player security configurations on corporate networks	19
CHAPTER 3: Getting to Know the Workspace	21
Using the Stage	22
Zooming	22
Moving the view of the Stage	23
Using the Timeline	23
Changing the appearance of the Timeline	24
Moving the playhead	24
Changing the display of frames in the Timeline	25
Using frames and keyframes	26
Working with frames in the Timeline	26
Using layers	27
Creating layers and layer folders	28
Viewing layers and layer folders	28
Editing layers and layer folders	30

Organizing layers and layer folders	31
Using guide layers.	31
About the main toolbar and edit bar	32
Using the toolbar.	32
Selecting tools.	32
Customizing the toolbar	33
Using the grid, guides, and rulers	33
Using panels and the Property inspector	35
About the Property inspector	35
About the Library panel	36
About the Actions panel	36
Using panels.	36
Setting preferences in Flash	38
Customizing keyboard shortcuts	40
Using context menus.	41
Accessibility in the Flash authoring environment.	42
About Flash authoring accessibility on the Macintosh.	42
Selecting panels or the Property inspector with keyboard shortcuts.	42
Selecting controls in a panel or the Property inspector using keyboard shortcuts.	43
Navigating dialog box controls using keyboard shortcuts (Windows only)	44
Selecting the Stage or objects on the Stage using keyboard shortcuts.	45
Navigating tree controls using keyboard shortcuts	45
Working with library items using keyboard shortcuts	46
CHAPTER 4: Building Your First Application	47
Workflow for building an application	47
Examine a completed application	48
Run the completed application.	48
Open the authoring document	49
Examine the completed application	49
View the library for your document	50
Close the application	50
Create a new document.	50
Open a new document.	50
Define document properties.	51
Add media content	51
Add vector art.	52
Import images into the library	53
Add art from the library	54
Add text	54
Add navigation controls.	55
Add and configure components	55
Add a behavior	56
Add motion and basic interactivity.	56
Add a Timeline effect	56
Extend a layer in the Timeline	57
Test the application	57

Publish and view the application	57
Publish the application	57
View your published application in a browser	58
The next steps	59
Resources	59
INDEX	61

CHAPTER 1

Getting Started

Welcome to Macromedia Flash MX 2004 and Macromedia Flash MX Professional 2004. Flash provides everything you need to create and deliver rich web content and powerful applications. Whether you're designing motion graphics or building data-driven applications, Flash has the tools necessary to produce great results and deliver the best user experience across multiple platforms and devices.

This guide is designed to introduce you to Flash. The tutorial in this guide leads you through the process of creating a simple Flash application.

About Flash

Flash is an authoring tool that allows you to create anything from a simple animation to a complex interactive web application, such as an online store. You can make your Flash applications media rich by adding pictures, sound, and video. Flash includes many features that make it powerful but easy to use, such as drag-and-drop user interface components, built-in behaviors that add ActionScript to your document, and special effects that you can add to objects.

When you author in Flash you work in a Flash document, a file that, when saved, has the file extension `.fla`. When you are ready to deploy your Flash content, you publish it, creating a file with the extension `.swf`. The Flash Player, described in the next section, runs the SWF file.

About the Flash Player

Macromedia Flash Player 7, which runs the applications that you create, installs by default along with Flash. The Flash Player ensures that all SWF content is viewable and available consistently and across the broadest range of platforms, browsers, and devices.

The Macromedia Flash Player is distributed with products from every major partner, including Microsoft, Apple, Netscape, AOL, and Opera, to bring rich content and applications immediately to over 516 million people worldwide. The Flash Player is distributed freely to anyone who wants to use it. You can get the latest version of the Flash Player at www.macromedia.com/go/getflashplayer.

What's new in Flash

There are now two editions of Flash: Flash MX 2004 and Flash MX Professional 2004. To verify which edition you have installed, select Help > About Flash in the application.

Flash MX 2004 Flash MX 2004 is the perfect tool for the web designer, interactive media professional, or subject matter expert developing multimedia content. Emphasis is on creation, import, and manipulation of many types of media (audio, video, bitmaps, vectors, text, and data).

Flash MX Professional 2004 Flash MX Professional 2004 is designed for advanced web designers and application builders. Flash MX Professional 2004 includes all the features of Flash MX 2004, along with several powerful new tools. It provides project-management tools for optimizing the workflow between the members of a web team made up of designers and developers. External scripting and capabilities for handling dynamic data from databases are some of the features that make Flash particularly suitable for large-scale, complex projects deployed using the Flash Player along with a hybrid of HTML content.

New features available in both Flash MX 2004 and Flash MX Professional 2004

The new features in Flash MX 2004 and Flash MX Professional 2004 provide greater productivity, enhanced rich media support, and streamlined publishing.

Productivity

Flash MX 2004 and Flash MX Professional 2004 include many features designed specifically for streamlining previously complex tasks, thereby improving productivity:

Timeline effects You can apply Timeline effects to any object on the Stage to quickly add transitions and animations such as fade-ins, fly-ins, blurs, and spins. For more information, see “Using Timeline effects” in Using Flash Help.

Behaviors With behaviors, you can add interactivity to Flash content without writing a line of code. For example, you can use behaviors to include functionality that links to a website, loads sounds and graphics, controls playback of embedded videos, plays movie clips, and triggers data sources. For more information see “Controlling instances with behaviors” in Using Flash Help.

Accessibility support in the authoring environment Accessibility support in the Flash authoring environment provides keyboard shortcuts for navigating and for using interface controls, letting you work with these interface elements without using the mouse. For more information, see “Accessibility in the Flash authoring environment” in Using Flash Help.

Updated templates Flash includes updated templates for creating presentations, e-learning applications, advertisements, mobile device applications, and other commonly used types of Flash documents. For more information, see “Using templates” in Using Flash Help.

Integrated Help system The new Help panel provides in-context reference, ActionScript reference, and lessons in the Flash authoring environment. For more information, see “Using the Help panel” in Using Flash Help.

Spell checker The spell checker searches your text for spelling errors.

Document tabs Tabs for each open document are displayed at the top of the workspace so that you can quickly locate and switch between open documents. For more information, see “Using document tabs for multiple documents (Windows only)” in Using Flash Help.

Start page The Start page puts commonly used tasks at your fingertips, in a central page. For more information, see “Using the Start page” on page 14.

Find and Replace The Find and Replace feature locates and replaces a text string, a font, a color, a symbol, a sound file, a video file, or an imported bitmap file. For more information, see “Using Find and Replace” in Using Flash Help.

Rich media support

New rich media support features enhance the quality of rich media presentations.

High-fidelity import High-fidelity import lets you import Adobe PDF and Adobe Illustrator 10 files and preserve accurate vector representation of your source files. For more information, see “Importing Adobe Illustrator, EPS, or PDF files in Using Flash Help.

Video Import wizard The Video Import wizard simplifies video encoding and offers encoding presets and clip editing. For more information, see “About the Video Import wizard” in Using Flash Help.

Small font size rendering Small font sizes are now rendered more crisply. For more information, see “Creating text” in Using Flash Help.

Publishing

New publishing features make it easy to detect Flash Player versions, improve accessibility, and simplify localization.

Flash Player detection You can now publish SWF files with associated files that detect if a user has a specified Flash Player version. You can configure your published files to direct users to alternate files if they don't have the specified Flash Player. For more information, see “Configuring publish settings for Flash Player detection” in Using Flash Help.

Publish profiles You can create profiles to save your publish settings, then export the profiles and use them across projects to publish consistently under different conditions. For more information, see “Creating a publish profile” in Using Flash Help.

Accessibility and components New accessibility features and a new generation of components offer tab ordering, tab focus management, and improved support for third-party screen readers and closed-caption programs.

Globalization and Unicode Enhanced globalization and Unicode support allows multilanguage authoring using any character set. For more information, see “Creating Multilanguage Text” in Using Flash Help. You may need to update your Help system to see this information.

Strings panel The new Strings panel makes it easier to publish Flash content in multiple languages. With the click of a few buttons, Flash creates external XML files for each specified language. For more information, see “Creating Multilanguage Text” in Using Flash Help. You may need to update your Help system to see this information.

Security The Flash Player 7 enforces a stricter security model than previous versions of the Flash Player. Exact domain matching requires that the domain of the data to be accessed match the data provider's domain *exactly* in order for the domains to communicate. HTTPS/HTTP restriction specifies that a SWF file using nonsecure (non-HTTPS) protocols cannot access content loaded using a secure (HTTPS) protocol, even when both are in exactly the same domain. For more information, see “Flash Player security features” in ActionScript Reference Guide Help.

Other improvements

Flash Player performance has been greatly improved, and ActionScript has been enhanced to comply with ECMA script language specifications. Also, Flash now tracks interactions so that they can be converted to reusable commands.

Flash Player runtime performance Player runtime performance has been improved by a factor of two to five times for video, scripting, and general display rendering.

ActionScript 2.0 ActionScript 2.0 is an object-oriented language that follows the ECMA script language specification and supports inheritance, strong typing, and the event model. For more information, see “ECMA-262 Edition 4 compliance in ActionScript Reference Guide Help. You may need to update your Help system to see this information.

History panel The History panel tracks your actions so that they can be converted to reusable commands. For more information, see “Using the History panel” in Using Flash Help.

New features available in Flash MX Professional 2004 only

Flash MX Professional 2004 offers all the features available in Flash MX 2004, plus a variety of new features to enhance application development and design. Features include the screen-based visual development environment, and tools for managing data interactively and for fostering team productivity.

Screen-based visual development environment

A visual programming environment Flash MX Professional 2004 introduces a forms-based visual programming environment, which is ideal for developing applications. For more information, see “Slide screens and form screens (Flash Professional only)” in Using Flash Help.

Slides-based authoring Slide screens provide functionality designed for sequential presentations. For more information, see “Slide screens and form screens (Flash Professional only)” in Using Flash Help.

A new generation of components

Advanced components support New components now support focus management to control tab navigation. Although the components have a new sophisticated design, you can easily reskin them to modify their appearance. For more information, see “Benefits of v2 components” in Using Components Help.

Data interactivity

Data binding Data binding allows you to connect any component to various data sources to manipulate, display, and update data through components or ActionScript. For more information, see “Data Binding” in Using Flash Help. You may need to update your Help system to see this information.

Prebuilt data connectors for Web Services and XML New components allow you to connect to web services and XML data sources easily. For more information, see “Macromedia Flash MX 2004 and Macromedia Flash MX Professional 2004 Components” in Using Components Help.

Performance improvements Performance improvements on large record sets allow your application to work efficiently with large amounts of data.

Team productivity

Project management The Project panel enables centralized project file management, version control, and workflow optimization for teams of Flash users working together. For more information, see “Working with Projects (Flash Professional Only)” in Using Flash Help.

Source code control Flash Professional provides source code control integration with plug-ins to industry-leading source control systems such as Microsoft Visual Source Safe. For more information, see “Using version control with projects (Flash Professional only)” in Using Flash Help.

Guide to instructional media

Flash contains a variety of media to help you learn the program quickly and become proficient in creating your own Flash applications.

About the electronic manuals and lessons

The following electronic manuals are available through the Help panel (Help > Help):

- *Getting Started* provides a hands-on introduction to Flash.
- *Using Flash* contains complete information on working in the Flash authoring tool, including all commands, features, and user interface elements.
- *Using Components* contains information on adding and configuring components in a Flash document, as well as information on creating components.
- The *ActionScript Reference Guide* provides a conceptual introduction to the ActionScript language.
- The *ActionScript Dictionary* documents all actions, methods, and properties in the ActionScript API.

If you are a new user, you'll find the following information useful:

- *Getting Started* provides basic information about the Flash workspace and guides you in creating a simple document.
- A series of lessons on the How Do I tab offer an introduction to using Flash. Refer to the Quick Start, Basic Flash, and Basic ActionScript lessons (Help > How Do I).

Using the Help panel

The updatable Help panel provides access to information on how to use Flash. For more information about the Help panel, see the following sections.

Accessing help

The tabs in the Help panel—Help and How Do I—contain the full set of user assistance information provided with the Flash application.

- You can select the Help tab to display general help information.
- You can select the How Do I tab to display a list of 10–20 minute lessons that guide you through many of the features in Flash.

To access help and the table of contents:

- 1 Select Help > Help to open the Help panel, or press F1.
 -  2 If the table of contents is not visible, click the Table of Contents button to display the Table of Contents pane.
A list of help books is displayed. The Help tab is selected by default.
 - 3 Double-click a book to open it and display its topics.
 - 4 Click a topic to select it.
-  To close the table of contents, click the X above the Table of Contents pane.

The Help panel contains context-sensitive Reference information which can be accessed from the Actions panel.

To access context-sensitive help from the Actions panel:

- 1 To select an item for reference, do one of the following:
 - Select an item in the Actions panel toolbox.
 - Select an item in the Actions panel Script pane.
 - Place the cursor before an item in the Actions panel Script pane.
- 2 To open the Help panel reference page for the selected item, do one of the following:
 - Press F1.
 - Right-click the item and select View Help.
 -  ■ Click the Reference button above the Script pane.

The How Do I tab contains brief lessons that introduce you to the main features of Flash, letting you practice on isolated examples. If you are new to Flash, or if you have used only a limited set of features, start with the How Do I tab.

To start the lessons:

- 1 Select Help > How Do I to display the How Do I tab of the Help panel.
In the Table of Contents, you'll find a list of lessons.
- 2 Click a lesson topic to open it.

To search for a word or phrase in the Help panel:

-  1 Click the Search icon in the Help panel toolbar.
The Search pane is displayed.
- 2 Type a word or phrase in the text box, then click Search.
A list of topics that contain the word or phrase is displayed, organized by book.
- 3 Click a topic to select it.

Note: Click the Table of Contents button to return to the Table of Contents pane.

To print a help page:

-  1 Click the Print button in the Help panel toolbar.
- 2 In the Print dialog box, select the printer and other printing options, then click Print.

Changing the size of text displayed in the Help panel

If you are using a laptop, you may find it useful to change the text in the Help panel to a larger size. If you change the size of the text in your browser, this will then be reflected in the Help panel. If you are using Windows, you can change the size of the text in the Help panel itself; this will also change the text size in your browser.

To change the size of the text displayed in the Help panel using your browser:

- 1 Quit Flash MX 2004.
- 2 Open your browser and follow the instructions to change the size of text in your browser to a larger size.

When you start Flash MX 2004, the size of the text in the help panel will be changed to the size you selected for your browser.

To change the size of the text displayed in the Help panel using the Help panel (Windows only):

- 1 Open the Help panel and choose any topic.
- 2 Select some text in the body of the Help topic.
- 3 Hold down CTRL and scroll the mouse wheel.

The text will increase or decrease in size.

Note: This will also change the size of text in your browser.

Arranging the Help panel

The Help panel allows you to arrange its position in the workspace to optimize usability. You can easily control the size of the display area, and where and when the Help panel is displayed. For more details about working with panels, see [“Using panels and the Property inspector”](#) on page 35.

To arrange the Help panel in a docked position:

- 1 Dock the Help panel in the desired position.
- 2 Expand the Help panel if it is not already.
- 3 Drag the splitter bar between the panel or panel group and the Document window to size the display area.
- 4 Press F1 to collapse and expand the Help panel as needed.

To arrange the Help panel in an undocked (floating) position:

- 1 Undock the Help panel to the desired position.
- 2 Expand the Help panel if it is not already.
- 3 Resize the panel window.
- 4 Press F1 to hide and show the Help panel as needed.

Updating the Help panel

The Update feature allows you to update your help system with new and revised documentation, including procedures and lessons. You can click the Update button to see if new information is available. In addition, the Start Page will indicate when there is a help update available.

To update Flash Help:

- 1 Verify that you're connected to the Internet.
- 2  Click the Update button in the Help panel toolbar and follow instructions to download the help system update.

As each help update is released, a new PDF of each updated book will be created and posted on the Flash support site documentation page at www.macromedia.com/support/documentation/en/flash/.

If you have trouble downloading help updates using this method, you can also install updated help using the Extension Manager. See the note about installing an MXP file on the Macromedia Flash MX 2004 documentation update status page at www.macromedia.com/support/flash/ts/documents/doc_update.htm.

Using the Start page

The Start page provides easy access to your most frequently used actions, either at the start of a session or whenever no open documents are in the application window.

The Start page contains the following areas:

Open a Recent Item lets you view your most recent documents.

Open displays the Open File dialog box.

Create New offers a list of file types from which to choose, such as ActionScript or document, for a quick way to open a new file.

Create from Template lists the templates most commonly used to create new documents and allows you to select from the list.

Extend links to the Macromedia Flash Exchange website, where you can download additional applications and information.

The Start page also offers quick access to resources that assist you in learning Flash. You can take a tour of Flash, take a lesson, and update your help system with the latest documentation.

The Start page can also display trial conversion information, upgrade notices, and additional messages of interest.

You can choose whether to display the Start page.

To hide the Start page:

- On the Start page, select Don't Show Again.

To specify that the Start page appear again, do one of the following:

- (Windows) Select Edit > Preferences and click Show Start Page on the General tab.
- (Macintosh) Select Flash > Preferences and click Show Start Page on the General tab.

CHAPTER 2

Installing Flash

This chapter explains the following:

- The system requirements for running Flash (see “System requirements” on page 15)
- How to install Flash (see “Installing and activating Flash” on page 16).
- How to customize Flash for a network (see “About Flash Player security configurations on corporate networks” on page 19)
- How to configure a server for the Flash Player (see “Configuring a server for the Flash Player” on page 18).

System requirements

The following hardware and software are required to run Macromedia Flash MX 2004 and Macromedia Flash MX Professional 2004.

Authoring

The following hardware and software are required to install the Flash authoring tool.

Windows	Macintosh
600 MHz Intel Pentium III processor or equivalent Windows 98 SE, Windows 2000, or Windows XP	500 MHz PowerPC G3 processor Mac OS X 10.2.6
128 MB RAM (256 MB recommended)	128 MB RAM (256 MB recommended)
190 MB available disk space	130 MB available disk space

Complete product system requirements and recommendations are available at www.macromedia.com/go/sysreqs.

To install Flash MX 2004 and Flash MX Professional 2004, you must have administrative privileges. You must also have administrative privileges to remove any edition of Flash.

Flash MX 2004 and Flash MX Professional 2004 do not support Macintosh hard disks formatted with UFS. Apple has documented several UFS formatting issues for Carbon and Classic. Unless you are using native applications (Cocoa), UFS is not recommended or supported by Apple.

Flash Player 7

The following table lists system and browser requirements for Flash Player 7.

Platform	Browser
Windows 98	Microsoft Internet Explorer 5.x, Netscape 4.7, Netscape 7.x, Mozilla 1.x, AOL 8, and Opera 7.11
Windows Me	Microsoft Internet Explorer 5.5, Netscape 4.7, Netscape 7.x, Mozilla 1.x, AOL 8, and Opera 7.11
Windows 2000	Microsoft Internet Explorer 5.x, Netscape 4.7, Netscape 7.x, Mozilla 1.x, CompuServe 7, AOL 8, and Opera 7.11
Windows XP	Microsoft Internet Explorer 6.0, Netscape 7.x, Mozilla 1.x, CompuServe 7, AOL 8, and Opera 7.11
Mac OS 9.x	Microsoft Internet Explorer 5.1, Netscape 4.8, Netscape 7.x, Mozilla 1.x, and Opera 6
Mac OS X 10.1.x, or Mac OS X 10.2.x	Microsoft Internet Explorer 5.2, Netscape 7.x, Mozilla 1.x, AOL 7, Opera 6, and Safari 1.0 (Mac OS X 10.2.x only)

Complete product system requirements and recommendations are available at www.macromedia.com/go/sysreqs.

Installing and activating Flash

Installing Flash is an automated process. After installation, you can choose to run the 30-day trial mode of Flash, or you can choose to activate either Flash MX 2004 or Flash MX 2004 Professional. Both editions of Flash must be activated over the Internet or phone prior to use, and you need your serial number to activate either edition of Flash unless you wish to select trial mode. Windows 98 SE users must have Microsoft Internet Explorer 5.1 or later in order to activate over the Internet.

Note: Installing Macromedia Flash MX 2004 and Macromedia Flash MX Professional 2004 does not overwrite earlier Flash versions, such as Macromedia Flash MX, that you might have installed.

To install Flash:

- 1 Close any running versions of Flash before installing.
- 2 Do one of the following to start the installation process:
 - (Windows) If you have a CD, insert it in your CD drive. A Flash movie plays that guides you through installation choices.
Note: You can also run Install Flash MX 2004.exe to start the Flash movie, if necessary.
 - (Macintosh) If you have a CD, insert it in your CD drive and double-click the Installer icon.
 - If you have downloaded Flash from the Internet, double-click FlashMX2004Installer.exe (Windows), or double-click the Installer icon (Macintosh) and follow the onscreen instructions.
- 3 When installation is complete, follow the instructions to select the 30-day trial period, or enter your serial number and activate Flash.

Upgrading from Macromedia Flash MX 2004 to Macromedia Flash MX Professional 2004

If you've purchased Macromedia Flash MX 2004, you can upgrade to Macromedia Flash MX Professional 2004.

To upgrade to Macromedia Flash MX Professional 2004:

- 1 Select Help > Upgrade to Flash MX Professional 2004.
- 2 In the dialog box that appears, do one of the following:
 - Select Buy to open a browser for the Macromedia store.
 - Select Try and follow the instructions to obtain a serial number for a trial upgrade.
At the end of the trial period, if you do not purchase the upgrade, your application reverts to Macromedia Flash MX 2004.

Switching between trial mode editions

If you're running the trial mode of one edition of Flash, you can change to another edition during the same trial period.

To switch between trial modes:

- From Flash, select Help > Switch to Flash MX Professional 2004 or Switch to Flash MX 2004, depending on which trial mode you're already using, and which you wish to try.
A dialog box appears indicating that you must restart your computer for the change to take effect.

Purchasing a Flash edition from trial mode

If you're running Flash in trial mode, you can initiate your purchase directly from the application.

To purchase Flash from trial mode:

- 1 Select Help > Activate Macromedia Flash MX.
- 2 In the dialog box that appears, select Buy One Online to purchase a serial number.
A browser window takes you to the Macromedia store.

Changing or removing Flash Player

You can change or reinstall the current version of Flash Player.

To change or reinstall the ActiveX control for Windows (Internet Explorer or AOL):

- 1 Close your browser.
- 2 Remove any currently installed versions of the ActiveX control. For instructions, see Technote 14157 on the Macromedia Support Center at www.macromedia.com/support/flash/ts/documents/remove_player.htm.
- 3 Run the Install Flash Player 7 AX.exe file in your Players folder to begin installation.
- 4 Open the browser. The new version of the ActiveX control should be installed.

To change or reinstall the plug-in for Windows (Netscape, Mozilla, CompuServe, or Opera):

- 1 Close your browser before installing a new version of the plug-in.
- 2 Remove any currently installed versions of the plug-in. For instructions, see Technote 14157 on the Macromedia Support Center at www.macromedia.com/support/flash/ts/documents/remove_player.htm.
- 3 Run the Install Flash Player 7.exe file in your Players folder to begin installation.
- 4 Open the browser. The new version of the plug-in should be installed. To verify installation in Netscape, select Help > About Plug-ins from the browser menu.

To change or reinstall the plug-in for Macintosh (Netscape, Internet Explorer for Macintosh, Safari, AOL, Opera, or CompuServe):

- 1 Close your browser before installing a new version of the plug-in.
- 2 Remove currently installed versions of the plug-in. See Technote 14157 on the Macromedia Support Center at www.macromedia.com/support/flash/ts/documents/remove_player.htm for instructions.
- 3 Run Install Flash Player 7 (Mac OS 9.x) or Install Flash Player 7 OS X (Mac OS X.x) in your Players folder to begin installation.
- 4 Open the browser. The new version of the plug-in should be installed. To verify on Netscape, select Help > About Plug-ins from the browser menu.

Configuring a server for the Flash Player

For users to view your Flash content on the web, the web server must be properly configured to recognize SWF files.

Your server may already be configured properly. To test server configuration, see TechNote 4151 on the Macromedia Flash Support Center at www.macromedia.com/support/flash/ts/documents/tn4151.html. If your server is not properly configured, follow the procedure below to configure it.

Configuring a server establishes the appropriate Multipart Internet Mail Extension (MIME) types so that the server can identify files with the .swf extension as Shockwave Flash files.

A browser that receives the correct MIME type can load the appropriate plug-in, control, or helper application to process and properly display the incoming data. If the MIME type is missing or not properly delivered by the server, the browser might display an error message or a blank window with a puzzle piece icon.

To configure a server for the Flash Player, do one of the following:

- If your site is established through an Internet service provider (ISP), ask the ISP to add this MIME type to the server: application/x-shockwave-flash with the SWF suffix.
- If you are administering your own server, see your web server documentation for instructions on adding or configuring MIME types.

About Flash Player security configurations on corporate networks

Corporate and enterprise system administrators can configure Flash to restrict access by the Flash Player to resources in the local file system. You can create a security configuration file that limits Flash Player functionality on the local system.

The security configuration file is a text file placed in the same folder as the Flash Player installer. The Flash Player installer reads the configuration file during installation and follows its security directives. The Flash Player exposes the configuration file to ActionScript using the System object.

With the configuration file, you can disable access by the Flash Player to the camera or microphone, limit the amount of local storage the Flash Player can use, control the auto-update feature, and block the Player from reading anything from the user's local hard disk.

For more information about security, see “System class” in ActionScript Reference Guide Help.

CHAPTER 3

Getting to Know the Workspace

The Macromedia Flash MX 2004 and Macromedia Flash MX Professional 2004 workspace consists of a Stage on which you place media content, a main toolbar with menus and commands for controlling application functionality, panels and a Property inspector for organizing and modifying media assets, and a toolbar with tools for creating and modifying vector graphic content. For more information on the workspace, see the following sections:

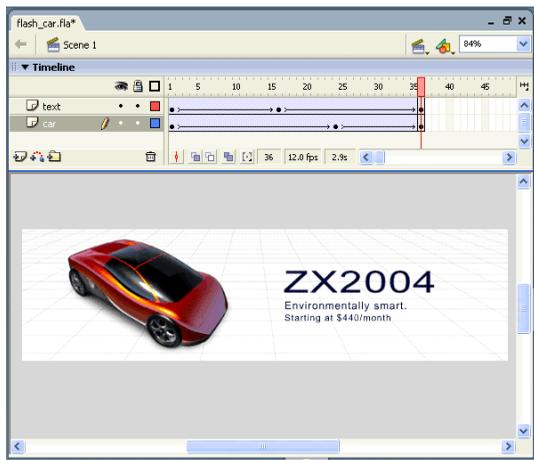
- [“Moving the view of the Stage” on page 23](#)
- [“Using the Timeline” on page 23](#)
- [“Using frames and keyframes” on page 26](#)
- [“Using layers” on page 27](#)
- [“About the main toolbar and edit bar” on page 32](#)
- [“Using the toolbar” on page 32](#)
- [“Using the grid, guides, and rulers” on page 33](#)
- [“Using panels and the Property inspector” on page 35](#)

You can select preferences to modify the default Flash workspace. Context menus and keyboard shortcuts provide ways for you to easily navigate the Flash authoring environment. Special workspace accessibility features provide additional keyboard shortcuts that let you navigate panels and dialog boxes without using the mouse. See the following sections:

- [“Setting preferences in Flash” on page 38](#)
- [“Customizing keyboard shortcuts” on page 40](#)
- [“Using context menus” on page 41](#)
- [“Accessibility in the Flash authoring environment” on page 42](#)

Using the Stage

The Stage is the rectangular area where you place graphic content, including vector art, text boxes, buttons, imported bitmap graphics or video clips, and so on. The Stage in the Flash authoring environment represents the rectangular space in the Macromedia Flash Player where your Flash document is displayed during playback. You can zoom in and out to change the view of the Stage as you work.



The grid, guides, and rulers help you position content precisely on the Stage. See [“Using the grid, guides, and rulers”](#) on page 33.

Zooming

To view the entire Stage on the screen, or to view just a particular area of your drawing at high magnification, you can change the magnification level. The maximum magnification depends on the resolution of your monitor and the document size. The minimum value for zooming out on the Stage is 8%. The maximum value for zooming in on the Stage is 2000%.

To magnify or reduce your view of the Stage, do one of the following:

- To zoom in on a certain element, select the Zoom tool in the toolbar and click the element. To switch the Zoom tool between zooming in or out, use the Enlarge or Reduce modifiers (in the options area of the toolbar when the Zoom tool is selected) or Alt-click (Windows) or Option-click (Macintosh).



- To zoom in on a specific area of your drawing, drag a rectangular selection marquee with the Zoom tool. Flash sets the magnification level so that the specified rectangle fills the window.
- To zoom in on or out of the entire Stage, select View > Zoom In or View > Zoom Out.
- To zoom in or out by a specified percentage, select View > Magnification and select a percentage from the submenu, or select a percentage from the Zoom control at the lower left corner of the application window.
- To scale the Stage to fit completely in the given window space, select View > Magnification > Fit in Window.

- To display the contents of the current frame, select View > Magnification > Show All, or select Show All from the Zoom control at the upper right of the application window. If the scene is empty, the entire Stage is displayed.
- To display the entire Stage, select View > Magnification > Show Frame or select Show Frame from the Zoom control at the lower left corner of the application window.
- To display the work area surrounding the Stage, select View > Work Area. The work area is shown in light gray. Use the Work Area command to view elements in a scene that are partly or completely outside of the Stage. For example, to have a bird fly into a frame, you would initially position the bird outside of the Stage in the work area.

Moving the view of the Stage

When the Stage is magnified, you may not be able to see all of it. The Hand tool lets you move the Stage to change the view without having to change the magnification.

To move the Stage view:

- 1 In the toolbar, select the Hand tool. To temporarily switch between another tool and the Hand tool, hold down the Spacebar and click the tool in the toolbar.
- 2 Drag the Stage.

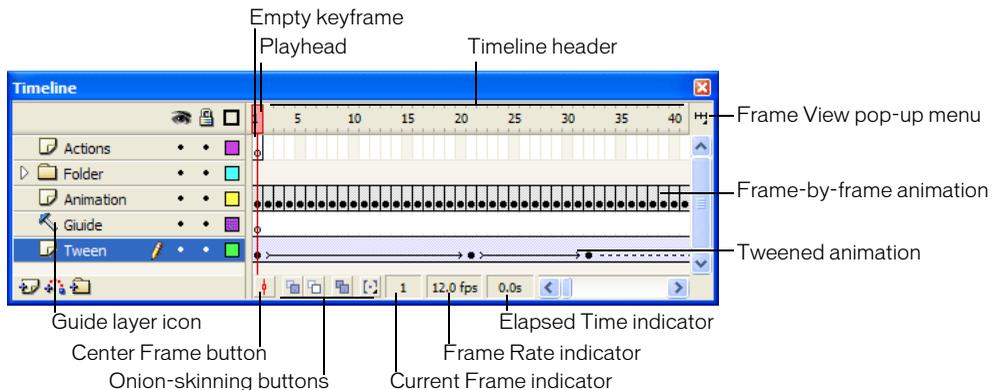
Using the Timeline

The Timeline organizes and controls a document's content over time in layers and frames. Like films, Flash documents divide lengths of time into frames. Layers are like multiple film strips stacked on top of one another, each containing a different image that appears on the Stage. The major components of the Timeline are layers, frames, and the playhead.

Layers in a document are listed in a column on the left side of the Timeline. Frames contained in each layer appear in a row to the right of the layer name. The Timeline header at the top of the Timeline indicates frame numbers. The playhead indicates the current frame displayed on the Stage.

The Timeline status display at the bottom of the Timeline indicates the selected frame number, the current frame rate, and the elapsed time to the current frame.

Note: When an animation is played, the actual frame rate is displayed; this may differ from the document frame rate if the computer can't display the animation quickly enough.



You can change the way frames are displayed in the Timeline, as well as display thumbnails of frame content in the Timeline. The Timeline shows where there is animation in a document, including frame-by-frame animation, tweened animation, and motion paths. For more information, see “Creating motion” in Using Flash Help.

Controls in the layers section of the Timeline let you hide, show, lock, or unlock layers, as well as display layer contents as outlines. See “Editing layers and layer folders” on page 30.

You can insert, delete, select, and move frames in the Timeline. You can also drag frames to a new location on the same layer or to a different layer. See “Working with frames in the Timeline” on page 26.

Changing the appearance of the Timeline

By default, the Timeline appears at the top of the main application window, above the Stage. To change its position, you can dock the Timeline to the bottom or either side of the main application window, or display the Timeline as its own window. You can also hide the Timeline.

You can resize the Timeline to change the number of layers and frames that are visible. When there are more layers than can be displayed in the Timeline, you can view additional layers by using the scroll bars on the right side of the Timeline.

To move the Timeline:

- Drag from the area above the Timeline header.
Drag the Timeline to the edge of the application window to dock it. Control-drag to prevent the Timeline from docking.

To lengthen or shorten layer name fields:

- Drag the bar separating the layer names and the frames portions of the Timeline.

To resize the Timeline, do one of the following:

- If the Timeline is docked to the main application window, drag the bar separating the Timeline from the application window.
- If the Timeline is not docked to the main application window, drag the lower right corner (Windows) or the size box in the lower right corner (Macintosh).

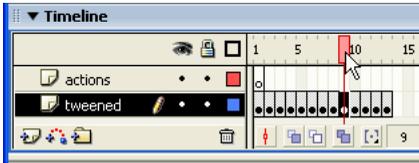
Moving the playhead

The playhead moves through the Timeline to indicate the current frame displayed on the Stage. The Timeline header shows the frame numbers of the animation. To display a frame on the Stage, you move the playhead to the frame in the Timeline.

When you're working with a large number of frames that can't all appear in the Timeline at once, you can move the playhead along the Timeline to easily locate the current frame.

To go to a frame:

- Click the frame's location in the Timeline header, or drag the playhead to the desired position.

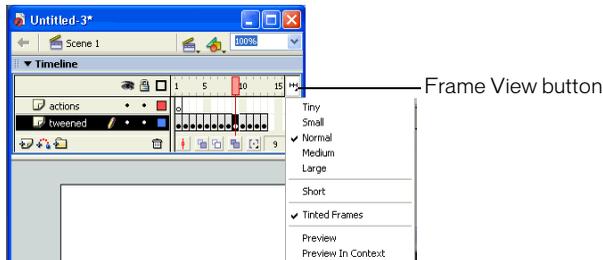


To center the Timeline on the current frame:

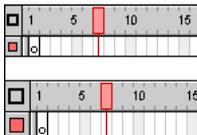
- Click the Center Frame button at the bottom of the Timeline.

Changing the display of frames in the Timeline

You can change the size of frames in the Timeline, and display sequences of frames with tinted cells. You can also include thumbnail previews of frame content in the Timeline. These thumbnails are useful as an overview of the animation, but they require extra screen space.



Frame View pop-up menu



Short and Normal frame view options

To change the display of frames in the Timeline:

- 1 Click the Frame View button in the upper right corner of the Timeline to display the Frame View pop-up menu.
- 2 Select from the following options:
 - To change the width of frame cells, select Tiny, Small, Normal, Medium, or Large. (The Large frame-width setting is useful for viewing the details of sound waveforms.)
 - To decrease the height of frame cell rows, select Short.
 - To turn tinting of frame sequences on or off, select Tinted Frames.

- To display thumbnails of the content of each frame scaled to fit the Timeline frames, select Preview. This can cause the apparent content size to vary.
- To display thumbnails of each full frame (including empty space), select Preview in Context. This is useful for viewing the way elements move within their frames over the course of the animation, but previews are generally smaller than with the Preview option.

Using frames and keyframes

A keyframe is a frame in which you define a change in an animation or include frame actions to modify a document. Flash can tween, or fill in, the frames between keyframes to produce fluid animations. Because keyframes let you produce animation without drawing each frame, they make creating animation easier. You can change the length of a tweened animation by dragging a keyframe in the Timeline.

The order in which frames and keyframes appear in the Timeline determines the order in which they are displayed in a Flash application. You can arrange keyframes in the Timeline to edit the sequence of events in an animation.

Working with frames in the Timeline

In the Timeline, you work with frames and keyframes, placing them in the order you want the objects in the frames to appear. You can change the length of a tweened animation by dragging a keyframe in the Timeline.

You can perform the following modifications on frames or keyframes:

- Insert, select, delete, and move frames or keyframes
- Drag frames and keyframes to a new location on the same layer or on a different layer
- Copy and paste frames and keyframes
- Convert keyframes to frames
- Drag an item from the Library panel onto the Stage to add the item to the current keyframe

The Timeline provides a view of tweened frames in an animation. For information on editing tweened frames, see “Editing animation” in Using Flash Help.

Flash offers two different methods for selecting frames in the Timeline. In frame-based selection (the default) you select individual frames in the Timeline. In span-based selection, the entire frame sequence, from one keyframe to the next, is selected when you click any frame in the sequence. You can specify span-based selection in Flash preferences. See [“Setting preferences in Flash” on page 38](#).

To insert frames in the Timeline, do one of the following:

- To insert a new frame, select Insert > Timeline > Frame.
- To create a new keyframe, select Insert > Timeline > Keyframe, or right-click (Windows) or Control-click (Macintosh) the frame where you want to place a keyframe, and select Insert Keyframe from the context menu.
- To create a new blank keyframe, select Insert > Timeline > Blank Keyframe, or right-click (Windows) or Control-click (Macintosh) the frame where you want to place the keyframe, and select Insert Blank Keyframe from the context menu.

To select one or more frames in the Timeline:

- To select one frame, click on the frame. If you have Span Based Selection turned on in Preferences, clicking one frame selects the entire frame sequence between two keyframes. See [“Setting preferences in Flash” on page 38](#).
- To select multiple contiguous frames, Shift-click additional frames.
- To select multiple discontinuous frames, Control-click (Windows) or Command-click (Macintosh) additional frames.

To select all frames in the Timeline:

- Select Edit > Timeline > Select All Frames.

To delete or modify a frame or keyframe, do one of the following:

- To delete a frame, keyframe, or frame sequence, select the frame, keyframe, or sequence and select Edit > Timeline > Remove Frame, or right-click (Windows) or Control-click (Macintosh) the frame, keyframe, or sequence and select Remove Frame from the context menu. Surrounding frames remain unchanged.
- To move a keyframe or frame sequence and its contents, drag the keyframe or sequence to the desired location.
- To extend the duration of a keyframe, Alt-drag (Windows) or Option-drag (Macintosh) the keyframe to the final frame of the new sequence duration.
- To copy a keyframe or frame sequence by dragging, Alt-click (Windows) or Option-click (Macintosh) and drag the keyframe to the new location.
- To copy and paste a frame or frame sequence, select the frame or sequence and select Edit > Timeline > Copy Frames. Select a frame or sequence that you want to replace, and select Edit > Timeline > Paste Frames.
- To convert a keyframe to a frame, select the keyframe and select Edit > Timeline > Clear Keyframe, or right-click (Windows) or Control-click (Macintosh) the keyframe and select Clear Keyframe from the context menu. The cleared keyframe and all frames up to the subsequent keyframe are replaced with the contents of the frame preceding the cleared keyframe.
- To change the length of a tweened sequence, drag the beginning or ending keyframe left or right. To change the length of a frame-by-frame sequence, see “About frame-by-frame animation” in Using Flash Help.
- To add an item from the library to the current keyframe, drag the item from the Library panel onto the Stage.

Using layers

Layers are like transparent sheets of acetate stacked on top of each other. Layers help you organize the artwork in your document. You can draw and edit objects on one layer without affecting objects on another layer. Where there is nothing on a layer, you can see through it to the layers below.

To draw, paint, or otherwise modify a layer or folder, you select the layer to make it active. A pencil icon next to a layer or folder name indicates that the layer or folder is active. Only one layer can be active at a time (although more than one layer can be selected at a time).

When you create a new Flash document, it contains one layer. You can add more layers to organize the artwork, animation, and other elements in your document. The number of layers you can create is limited only by your computer's memory, and layers do not increase the file size of your published SWF file. You can hide, lock, or rearrange layers.

You can also organize and manage layers by creating layer folders and placing layers in them. You can expand or collapse layers in the Timeline without affecting what you see on the Stage. It's a good idea to use separate layers or folders for sound files, actions, frame labels, and frame comments. This helps you find these items quickly when you need to edit them.

In addition, you can use special guide layers to make drawing and editing easier, and mask layers to help you create sophisticated effects.

For an interactive introduction to working with layers in Flash, select Help > How Do I > Basic Flash > Work with Layers.

Creating layers and layer folders

When you create a new layer or folder, it appears above the selected layer. A newly added layer becomes the active layer.

To create a layer, do one of the following:



- Click the Insert Layer button at the bottom of the Timeline.
- Select Insert > Timeline > Layer.
- Right-click (Windows) or Control-click (Macintosh) a layer name in the Timeline and select Insert Layer from the context menu.

To create a layer folder, do one of the following:

- Select a layer or folder in the Timeline, then select Insert > Timeline > Layer Folder.
- Right-click (Windows) or Control-click (Macintosh) a layer name in the Timeline, then select Insert Folder from the context menu.

The new folder appears above the layer or folder you selected.

Viewing layers and layer folders

As you work, you may want to show or hide layers or folders. A red X next to the name of a layer or folder indicates that it is hidden. When you publish a Flash SWF file, any layers that were hidden in the FLA document are preserved and visible in the SWF file.

To help you distinguish which layer an object belongs to, you can display all objects on a layer as colored outlines. You can change the outline color used by each layer.

You can change the height of layers in the Timeline in order to display more information (such as sound waveforms) in the Timeline. You can also change the number of layers displayed in the Timeline.

To show or hide a layer or folder, do one of the following:

- Click in the Eye column to the right of the layer or folder name in the Timeline to hide that layer or folder. Click in it again to show the layer or folder.
- Click the eye icon to hide all the layers and folders. Click it again to show all layers and folders.
- Drag through the Eye column to show or hide multiple layers or folders.
- Alt-click (Windows) or Option-click (Macintosh) in the Eye column to the right of a layer or folder name to hide all other layers and folders. Alt-click or Option-click it again to show all layers and folders.

To view the contents of a layer as outlines, do one of the following:

- Click in the Outline column to the right of the layer's name to display all objects on that layer as outlines. Click in it again to turn off outline display.
- Click the outline icon to display objects on all layers as outlines. Click it again to turn off outline display on all layers.
- Alt-click (Windows) or Option-click (Macintosh) in the Outline column to the right of a layer's name to display objects on all other layers as outlines. Alt-click or Option-click in it again to turn off outline display for all layers.

To change a layer's outline color:

- 1 Do one of the following:
 - Double-click the layer's icon (the icon to the left of the layer name) in the Timeline.
 - Right-click (Windows) or Control-click (Macintosh) the layer name and select Properties from the context menu.
 - Select the layer in the Timeline and select Modify > Layer.
- 2 In the Layer Properties dialog box, click the Outline Color box and select a new color, enter the hexadecimal value for a color, or click the Color Picker button and select a color.
- 3 Click OK.

To change layer height in the Timeline:

- 1 Do one of the following:
 - Double-click the layer's icon (the icon to the left of the layer name) in the Timeline.
 - Right-click (Windows) or Control-click (Macintosh) the layer name and select Properties from the context menu.
 - Select the layer in the Timeline and select Modify > Timeline > Layer Properties.
- 2 In the Layer Properties dialog box, select an option for Layer Height and click OK.

To change the number of layers displayed in the Timeline:

- Drag the bar that separates the Timeline from the Stage.

Editing layers and layer folders

You can rename, copy, and delete layers and folders. You can also lock layers and folders to prevent them from being edited.

By default, new layers are named by the order in which they are created: Layer 1, Layer 2, and so on. You can rename layers to better reflect their contents.

To select a layer or folder, do one of the following:

- Click the name of a layer or folder in the Timeline.
- Click a frame in the Timeline of the layer you want to select.
- Select an object on the Stage that is located on the layer you want to select.
- To select two or more layers or folders, do one of the following:
- To select contiguous layers or folders, Shift-click their names in the Timeline.
- To select discontinuous layers or folders, Control-click (Windows) or Command-click (Macintosh) their names in the Timeline.

To rename a layer or folder, do one of the following:

- Double-click the name of a layer or folder and enter a new name.
- Right-click (Windows) or Control-click (Macintosh) the name of a layer or folder and select Properties from the context menu. Enter the new name in the Name text box and click OK.
- Select the layer or folder in the Timeline and select Modify > Timeline > Layer Properties. In the Layer Properties dialog box, enter the new name in the Name text box and click OK.

To lock or unlock one or more layers or folders, do one of the following:

- Click in the Lock column to the right of the name of a layer or folder to lock it. Click in the Lock column again to unlock the layer or folder.
- Click the padlock icon to lock all layers and folders. Click it again to unlock all layers and folders.
- Drag through the Lock column to lock or unlock multiple layers or folders.
- Alt-click (Windows) or Option-click (Macintosh) in the Lock column to the right of a layer or folder name to lock all other layers or folders. Alt-click or Option-click in the Lock column again to unlock all layers or folders.

To copy a layer:

- 1 Click the layer name to select the entire layer.
- 2 Select Edit > Timeline > Copy Frames.
- 3 Click the Insert Layer button to create a new layer.
- 4 Click the new layer and select Edit > Timeline > Paste Frames.

To copy the contents of a layer folder:

- 1 Click the triangle to the left of the folder name to collapse it, if necessary.
- 2 Click the folder name to select the entire folder.
- 3 Select Edit > Timeline > Copy Frames.
- 4 Select Insert > Timeline > Layer Folder to create a new folder.
- 5 Click the new folder and select Edit > Timeline > Paste Frames.

To delete a layer or folder:

- 1 Select the layer or folder.
- 2 Do one of the following:
 - Click the Delete Layer button in the Timeline.
 - Drag the layer or folder to the Delete Layer button.
 - Right-click (Windows) or Control-click (Macintosh) the layer or folder name and select Delete Layer from the context menu.

Note: When you delete a layer folder, all the enclosed layers and all their contents are also deleted.

Organizing layers and layer folders

You can rearrange layers and folders in the Timeline to organize your document.

Layer folders help organize your workflow by letting you place layers in a tree structure. You can expand or collapse a folder to see the layers it contains without affecting which layers are visible on the Stage. Folders can contain both layers and other folders, allowing you to organize layers in much the same way you organize files on your computer.

The layer controls in the Timeline affect all layers within a folder. For example, locking a layer folder locks all layers within that folder.

To move a layer or layer folder into a layer folder:

- Drag the layer or layer folder name to the destination layer folder name.
The layer or layer folder appears inside the destination layer folder in the Timeline.

To change the order of layers or folders:

- Drag one or more layers or folders in the Timeline to the desired position.

To expand or collapse a folder:

- Click the triangle to the left of the folder name.

To expand or collapse all folders:

- Right-click (Windows) or Control-click (Macintosh) and select Expand All Folders or Collapse All Folders from the context menu.

Using guide layers

For help in aligning objects when drawing, you can create guide layers. You can then align objects on other layers to the objects you create on the guide layers. Guide layers do not appear in a published SWF file. You can make any layer a guide layer. Guide layers are indicated by a guide icon to the left of the layer name.

You can also create a motion guide layer to control the movement of objects in a motion tweened animation. See “Tweening motion along a path” in Using Flash Help.

Note: Dragging a normal layer onto a guide layer converts the guide layer to a motion guide layer. To prevent accidentally converting a guide layer, place all guide layers at the bottom of the layer order.

To designate a layer as a guide layer:

- Select the layer and right-click (Windows) or Control-click (Macintosh) and select Guide from the context menu. Select Guide again to change the layer back to a normal layer.

About the main toolbar and edit bar

The main toolbar at the top of the workspace displays menus with commands for controlling Flash functionality. The menus include File, Edit, View, Insert, Modify, Text, Commands, Control, Window, and Help.

The edit bar, directly below the main toolbar, contains controls and information for editing scenes and symbols, and for changing the magnification level of the Stage.

For information on changing the Stage magnification level, see [“Zooming” on page 22](#). For information on editing symbols, see [Chapter 3, “Using Symbols, Instances, and Library Assets,” on page 55](#). For information on working with scenes, see “Working with scenes” in Using Flash Help.

Using the toolbar

The tools in the toolbar let you draw, paint, select, and modify artwork, as well as change the view of the Stage. The toolbar is divided into four sections:

- The tools area contains drawing, painting, and selection tools.
- The view area contains tools for zooming and panning in the application window.
- The colors area contains modifiers for stroke and fill colors.
- The options area displays modifiers for the selected tool, which affect the tool’s painting or editing operations.

Using the Customize Toolbar dialog box, you can specify which tools to display in the Flash authoring environment. See [“Customizing the toolbar” on page 33](#).

For information on using the drawing and painting tools, see “Flash drawing and painting tools” in Using Flash Help. For information on using the selection tools, see “Selecting objects” in Using Flash Help. For information on using the view modification tools, see [“Moving the view of the Stage” on page 23](#).

To show or hide the toolbar:

- Select Window > Tools.

Selecting tools

You can select tools by clicking in the toolbar, or by using a keyboard shortcut.

To select a tool, do one of the following:

- Click the tool you want to use. Depending on the tool you select, a set of modifiers may be displayed in the options area at the bottom of the toolbar.
- Press the tool’s keyboard shortcut.
- To select a tool located in the pop-up menu behind a visible tool, press the icon of the visible tool and select another tool from the pop-up menu.

Customizing the toolbar

You can customize the toolbar to specify which tools appear in the authoring environment. You use the Customize Toolbar dialog box to add or remove tools from the toolbar.

You can display more than one tool in one location. When more than one tool is displayed in a location, the top tool in the group (the most recently used) is displayed with an arrow in the lower right corner of its icon. When you press and hold the mouse button on the icon, the other tools in the group appear in a pop-up menu. You can drag to select a tool from the menu.

To customize the toolbar:

1 To display the Customize Toolbar dialog box, do one of the following:

- In Windows, select Edit > Customize Toolbar.
- On the Macintosh, select Flash > Customize Toolbar.

The Available Tools menu indicates the tools that are currently available in the Flash. The Current Selection menu indicates the tool (or tools) currently assigned to the selected location in the toolbar.

Note: If more than one tool is assigned to one location in the toolbar, the additional tools appear in a pop-up menu located behind the top tool in the group. A small arrow in the lower right corner of the top tool indicates that additional tools are present. The same keyboard shortcut functions for all tools in the group.

- 2 Click a tool in the toolbar graphic or use the arrows to cycle through the tools, to specify the location to which you want to assign another tool.
- 3 To add a tool to the selected location, select the tool in the Available Tools list and click the Add button. It is possible to assign a tool to more than one location.
- 4 To remove a tool from the selected location, select the tool in the Current Selection scroll list and click the Remove button.
- 5 Click OK to apply your changes and close the Customize Toolbar dialog box.

To restore the default toolbar layout:

- Click Restore Default in the Customize Toolbar dialog box.

Using the grid, guides, and rulers

Flash comes with rulers and guides that help you draw and lay out objects precisely. You can place guides in a document and snap objects to those guides, or turn on the grid and snap objects to it.

Note: You can also snap objects to other objects or to pixels, or align objects using specified snap tolerance boundaries. See “Snapping” in Using Flash Help.

Using the grid

When the grid is displayed in a document, it appears as a set of lines behind the artwork in all scenes. You can snap objects to the grid, and you can modify the grid size and grid line color.

To display or hide the drawing grid:

- Select View > Grid > Show Grid.

To turn snapping to grid lines on or off:

- Select View > Snapping > Snap to Grid.

To set grid preferences:

- 1 Select View > Grid > Edit Grid.
- 2 For Color, click the triangle in the color box and select a grid line color from the palette.
The default grid line color is gray.
- 3 Select or deselect Show Grid to display or hide the grid.
- 4 Select or deselect Snap to Grid to turn snapping to grid lines on or off.
- 5 For grid spacing, enter values in the text boxes to the right of the horizontal and vertical arrows.
- 6 For Snap Accuracy, select an option from the pop-up menu.
- 7 If you want to save the current settings as the default, click Save Default.

Using guides

You can drag horizontal and vertical guides from the rulers onto the Stage when the rulers are displayed. You can move guides, lock guides, hide guides, and remove guides. You can also snap objects to guides, and change guide color and snap tolerance (how close objects must be to snap to a guide). Draggable guides appear only in the Timeline in which they were created.

You can clear all the guides in the current editing mode—document-editing mode or symbol-editing mode. If you clear guides in document-editing mode, all the guides in the document are cleared. If you clear guides in symbol-editing mode, all the guides in all symbols are cleared.

To create custom guides or irregular guides, you use guide layers. See [“Using guide layers” on page 31](#).

To display or hide the drawing guides:

- Select View > Guides > Show Guides.

Note: If the grid is visible and Snap to Grid is turned on when you create guides, guides will snap to the grid.

To turn snapping to guides on or off:

- Select View > Snapping > Snap to Guides.

Note: Snapping to guides takes precedence over snapping to the grid in places where guides fall between grid lines.

To move a guide:

- Use the Arrow tool to drag the guide.

To remove a guide:

- With guides unlocked, use the Arrow tool to drag the guide to the horizontal or vertical ruler. For information on locking and unlocking guides, see the following procedure.

To lock guides:

- Select View > Guides > Lock Guides.

Note: You can also use the Lock Guides option in the Guides preferences dialog box. See the following procedure.

To set guide preferences:

- 1 Select View > Guides > Edit Guides and do any of the following:
 - For Color, click the triangle in the color box and select a guide line color from the palette. The default guide color is green.
 - Select or deselect Show Guides to display or hide guides.
 - Select or deselect Snap to Guides to turn snapping to guides on or off.
 - Select or deselect Lock Guides to lock or unlock guides.
 - For Snap Accuracy, select an option from the pop-up menu.
 - If you want to remove all guides, click Clear All.
 - Clear All removes all guides from the current scene.
 - If you want to save the current settings as the default, click Save Default.
- 2 Click OK.

To clear guides:

- Select View > Guides > Clear Guides.
If you are in edit document mode, all guides in the document are cleared. If you are in edit symbols mode, only guides used in symbols are cleared.

Using rulers

When rulers are displayed, they appear along the top and left sides of the document. You can change the unit of measure used in the rulers from the default of pixels. When you move an element on the Stage with the rulers displayed, lines indicating the element's dimensions appear on the rulers.

To display or hide rulers:

- Select View > Rulers.

To specify the rulers' unit of measure for a document:

- Select Modify > Document, and then select an option from the pop-up menu at the upper right.

Using panels and the Property inspector

Flash offers many ways to customize the workspace to your needs. Using panels and the Property inspector, you can view, organize, and change assets and their attributes. You can show, hide, and resize panels. You can also group panels and save custom panel sets to make managing your workspace easier. The Property inspector changes to reflect the tool or asset you are working with, giving you quick access to frequently used features.

About the Property inspector

The Property inspector simplifies document creation by making it easy to access the most commonly used attributes of the current selection, either on the Stage or in the Timeline. You can make changes to the object or document attributes in the Property inspector without accessing the menus or panels that contain these features.

Depending on what is currently selected, the Property inspector displays information and settings for the current document, text, symbol, shape, bitmap, video, group, frame, or tool. When two or more different types of objects are selected, the Property inspector displays the total number of objects selected.

About the Library panel

The Library panel is where you store and organize symbols created in Flash, as well as imported files, including bitmap graphics, sound files, and video clips. The Library panel lets you organize library items in folders, see how often an item is used in a document, and sort items by type. See “Using the library to manage media assets” in Using Flash Help.

About the Actions panel

The Actions panel lets you create and edit actions for an object or frame. Selecting a frame, button, or movie clip instance makes the Actions panel active. The Actions panel title changes to Button Actions, Movie Clip Actions, or Frame Actions, depending on what is selected.

For information on using the Actions panel, including switching between editing modes, see “Using the Actions panel and Script window” in ActionScript Reference Guide Help.

Using panels

Panels in Flash help you view, organize, and change elements in a document. The options available in panels control the characteristics of symbols, instances, colors, type, frames, and other elements. You can use panels to customize the Flash interface, by displaying the panels you need for a specific task and hiding other panels.

Panels let you work with objects, colors, text, instances, frames, scenes, and entire documents. For example, you use the Color Mixer to create colors, and the Align panel to align objects to each other or the Stage. To view the complete list of panels available in Flash, see the Window menu.

Most panels include a pop-up menu with additional options. The options menu is indicated by a control in the panel’s title bar. (If no options menu control appears, there is no options menu for that panel.)

By default, panels appear grouped at the bottom of the Flash work area and on the right of the work area.

To open a panel:

- Select the desired panel from the Window menu.

To close a panel, do one of the following:

- Select the desired panel from the Window menu.
- Right-click (Windows) or Control-click (Macintosh) the panel’s title bar and select Close Panel from the context menu.

To use a panel’s options menu:

- 1 Click the control at the far right in the panel’s title bar to view the options menu.
- 2 Click an item in the menu.

To resize a panel:

- Drag the panel's border (Windows) or drag the size box at the panel's lower right corner (Macintosh).

To expand or collapse a panel to its title bar:

- Click the collapse arrow in the title bar. Click the collapse arrow again to expand the panel to its previous size.

To close all panels:

- Select Window > Hide Panels.

Arranging panels

You can rearrange the order in which panels appear within panel groups. You can also create new panel groups and dock panels to existing panel groups. If you want a panel to appear on its own, separated from other panel groups, you can float the panel. This is particularly useful for panels that you want access to all the time, for example the Help panel or the Actions panel.

To move a panel:

- Drag the panel by its gripper (on the left side of the title bar).

To add a panel to an existing panel group:

- Drag the panel by its gripper onto another panel.

To float a panel:

- Drag the panel by its gripper and move it away from other panels.

To create a new panel group:

- Drag the panel by its gripper, away from other panel groups. Add additional panels to the group.

Using panel sets

You can create panel sets in custom arrangements, and you can save these custom panel layouts. You can reset panel display to the default layout (displaying the Color Swatches, Actions, and Components panels and the Color Mixer to the right of the application window) or to a custom layout that you have saved previously.

To save a custom panel set:

- 1 Select Window > Save Panel Layout.
- 2 Enter a name for the layout and click OK.

To select a panel layout:

- 1 Select Window > Panel Sets.
- 2 From the submenu, select Default Layout to reset panels to the default layout, or select a custom layout that you have saved previously.

To delete custom layouts:

- Open the folder for the Panel Sets documents in the location for your operating system (listed below) and delete the text file for the custom panel set.

For Windows operating systems:

- Windows 2000 or XP: <boot drive>\Documents and Settings\<username>\Local Settings\Application Data\Macromedia\Flex MX 2004\<language>\Configuration\Panel Sets
- Windows 98: C:\Windows\Application Data\Macromedia\Flex MX 2004\<language>\Configuration\Panel Sets

For Macintosh operating systems:

- Macintosh OS X: Macintosh HD/Applications/Macromedia Flex MX 2004/First Run/Panel Sets

Setting preferences in Flash

Flash lets you set preferences for general application operations, editing operations, and Clipboard operations. See also “Specifying drawing settings” in Using Flash.

To set preferences:

- 1 Select Edit > Preferences (Windows) or Flash > Preferences (Macintosh).
- 2 Click the General, Editing, Clipboard, Warning, or ActionScript Editor tab, and select from the respective options as described in the procedures that follow. For more information on ActionScript Editor preferences, see “Using the ActionScript editor” in ActionScript Reference Guide Help.

To set general preferences, select from the following options:

- For Undo Levels, enter a value from 2 to 9999 to set the number of undo/redo levels. Undo levels require memory; the more undo levels you use, the more system memory is taken up. The default is 100.
- For Printing Options (Windows only), select Disable PostScript if you want to disable PostScript output when printing to a PostScript printer. By default, this option is deselected. Select this option if you have problems printing to a PostScript printer, but keep in mind that this will slow down printing.
- For Selection Options, select or deselect Shift Select to control how Flash handles selection of multiple elements. When Shift Select is off, clicking additional elements adds them to the current selection. When Shift Select is on, clicking additional elements deselects other elements unless you hold down the Shift key.
- Select Show Tooltips to display tooltips when the pointer pauses over a control. Deselect this option if you don’t want to see the tooltips.
- For Timeline Options, select Disable Timeline Docking to keep the Timeline from attaching itself to the application window once it has been separated into its own window. For more information, see “Using the Timeline” on page 23.
- Select Span Based Selection to use span-based selection in the Timeline, rather than the default frame-based selection. For more information on span-based and frame-based selection, see “Working with frames in the Timeline” on page 26.
- Select Named Anchor on Scenes to have Flash make the first frame of each scene in a document a named anchor. Named anchors let you use the Forward and Back buttons in a browser to jump from scene to scene in a Flash application.

- For Highlight Color, select Use This Color and select a color from the palette, or select Use Layer Color (the default option) to use the current layer's outline color.
- For Font Mapping Default, select a font to use when substituting missing fonts in documents you open in Flash. See "Substituting missing fonts" in Using Flash Help.
- For On Launch options, select an option to specify which document Flash opens when you start the application. Select Show Start Page to display the Start Page. Select New Document to open a new, blank document. Select Last Documents Open to open the documents that were open when you last quit Flash. Select No Document to start Flash without opening a document.

To set editing preferences, do any of the following:

- For Pen Tool options, see "Setting Pen tool preferences" in Using Flash Help.
- For Vertical Text options, select Default Text Orientation to make the default orientation of text vertical, which is useful for some Asian language fonts. By default, this option is deselected.
- Select Right to Left Text Flow to reverse the default text display direction. This option is deselected by default.
- Select No Kerning to turn off kerning for vertical text. This option is deselected by default but is useful to improve spacing for some fonts that use kerning tables.
- For Drawing Settings, see "Specifying drawing settings" in Using Flash Help.

Note: If you are using Macromedia Flash MX Professional 2004, you can select Project preferences on the Editing tab, for closing and saving project files. See "Creating and managing projects (Flash Professional only)" in Using Flash Help.

To set Clipboard preferences, select from the following options:

- For Bitmaps (Windows only), select options for Color Depth and Resolution to specify these parameters for bitmaps copied to the Clipboard. Select Smooth to apply anti-aliasing. Enter a value in the Size Limit text box to specify the amount of RAM that is used when placing a bitmap image on the Clipboard. Increase this value when working with large or high-resolution bitmap images. If your computer has limited memory, select None.
- For Gradients (Windows only), select an option to specify the quality of gradient fills placed in the Windows Metafile. Choosing a higher quality increases the time required to copy artwork. Use this setting to specify gradient quality when pasting items to a location outside of Flash. When you are pasting within Flash, the full gradient quality of the copied data is preserved regardless of the Gradients on Clipboard setting.
- For PICT Settings (Macintosh only), for Type, select Objects to preserve data copied to the Clipboard as vector artwork, or select one of the bitmap formats to convert the copied artwork to a bitmap. Enter a value for Resolution. Select Include PostScript to include PostScript data. For Gradients, select an option to specify gradient quality in the PICT. Choosing a higher quality increases the time required to copy artwork. Use the Gradients setting to specify gradient quality when pasting items to a location outside of Flash. When you are pasting within Flash, the full gradient quality of the copied data is preserved regardless of the Gradient setting.
- For FreeHand Text, select Maintain Text as Blocks to keep text editable in a pasted FreeHand file.

To set warning preferences, select one of the following options:

- Select Warn on Save for Macromedia Flash MX Compatibility to have Flash warn you when you try to save documents with content specific to the Flash MX 2004 or Flash MX Professional 2004 authoring tool as a Flash MX file. This option is selected by default.
- Select Warn on Missing Fonts to have Flash warn you when you open a Flash document that uses fonts that are not installed on your computer. This option is selected by default.
- Select Warn on URL Changes in Launch and Edit to have Flash warn you if the URL for a document has changed since the last time you opened and edited it.
- Select Warn on Reading Generator Content to have Flash display a red X over any Generator objects, as a reminder that Generator objects are not supported in Flash MX 2004.
- Select Warn on Inserting Frames when Importing Content to have Flash alert you when it inserts frames in your document to accommodate audio or video files that you import.
- Select Warn on Encoding Conflicts When Exporting .as Files to have Flash alert you when selecting Default Encoding could potentially lead to data loss or character corruption. (For example, if you create a file with English, Japanese, and Korean characters and select Default Encoding on an English system, the Japanese and Korean characters will be corrupted.)
- Select Warn on Conversion of Effect Graphic Objects to have Flash warn you when you attempt to edit a symbol that has Timeline effects applied to it.
- Select Warn on Exporting to Flash Player 6 r65 to have Flash warn you when you export a document to this earlier version of the Flash Player.
- Select Warn on Sites with Overlapped Root Folder to have Flash warn you when you create a site in which the local root folder overlaps with another site.
- Select Warn on Behavior Symbol Conversion to have Flash warn you when you convert a symbol with a behavior attached to a symbol of a different type—for example, when you convert a movie clip to a button.
- Select Warn on Symbol Conversion to have Flash warn you when you convert a symbol to a symbol of a different type.

Customizing keyboard shortcuts

You can select keyboard shortcuts in Flash to match the shortcuts you use in other applications, or to streamline your Flash workflow. By default, Flash uses built-in keyboard shortcuts designed for the Flash application. You can also select a built-in keyboard shortcut set from one of several popular graphics applications, including Fireworks, Adobe Illustrator, and Adobe Photoshop.

To create a custom keyboard shortcut set, you duplicate an existing set, and then add or remove shortcuts from the new set. You can delete custom shortcut sets.

To select a keyboard shortcut set:

- 1 Select Edit > Keyboard Shortcuts (Windows) or Flash > Keyboard Shortcuts (Macintosh).
- 2 In the Keyboard Shortcuts dialog box, select a shortcut set from the Current Set pop-up menu.

To create a new keyboard shortcut set:

- 1 Select a keyboard shortcut set as described in the previous procedure.
- 2 Click the Duplicate Set button.
- 3 Enter a name for the new shortcut set and click OK.

To rename a custom keyboard shortcut set:

- 1 In the Keyboard Shortcuts dialog box, select a shortcut set from the Current Set pop-up menu.
- 2 Click the Rename Set button.
- 3 In the Rename dialog box, enter a new name and click OK.

To add or remove a keyboard shortcut:

- 1 Select Edit > Keyboard Shortcuts (Windows) or Flash > Keyboard Shortcuts (Macintosh) and select the set that you want to modify.
- 2 From the Commands pop-up menu, select Drawing Menu Commands, Drawing Tools, Test Movie Menu Commands, or Workplace Accessibility Commands to view shortcuts for the selected category.
- 3 In the Commands list, select the command for which you want to add or remove a shortcut. An explanation of the selected command appears in the Description area in the dialog box.
- 4 Do one of the following:
 - To add a shortcut, click the Add Shortcut (+) button.
 - To remove a shortcut, click the Remove Shortcut (-) button and proceed to step 6.
- 5 If you are adding a shortcut, enter the new shortcut key combination in the Press Key text box.
Note: To enter the key combination, simply press the keys on the keyboard. You do not need to spell out key names, such as Control, Option, and so on.
- 6 Click Change.
- 7 Repeat this procedure to add or remove additional shortcuts.
- 8 Click OK.

To delete a keyboard shortcut set:

- 1 Select Edit > Keyboard Shortcuts (Windows) or Flash > Keyboard Shortcuts (Macintosh). In the Keyboard Shortcuts dialog box, click the Delete Set button.
- 2 In the Delete Set dialog box, select a shortcut set and click Delete.
Note: You cannot delete the built-in keyboard shortcut sets that ship with Flash.

Using context menus

Context menus contain commands relevant to the current selection. For example, when you select a frame in the Timeline window, the context menu contains commands for creating, deleting, and modifying frames and keyframes. Context menus exist for many items and controls in many locations, including on the Stage, in the Timeline, in the Library panel, and in the Actions panel.

To open a context menu:

- Right-click (Windows) or Control-click (Macintosh) an item.

Accessibility in the Flash authoring environment

Accessibility support in the Flash authoring environment provides keyboard shortcuts for navigating and using interface controls, including panels, the Property inspector, dialog boxes, the Stage, and objects on the Stage, so that you can work with these interface elements without using the mouse.

Note: Certain keyboard controls are available only in Windows. See [“About Flash authoring accessibility on the Macintosh”](#) on page 42.

You can customize the keyboard shortcuts for accessibility in the authoring environment using the Workspace Accessibility Commands section of the Keyboard Shortcuts dialog box. See [“Customizing keyboard shortcuts”](#) on page 40.

Some authoring environment accessibility features are unavailable on the Macintosh. See the following section.

About Flash authoring accessibility on the Macintosh

Accessibility for the Flash authoring environment on the Macintosh has the following limitations:

- The Panel Focus keyboard shortcut (Command+Alt+Tab) is not supported for the Property inspector.
- The Panel Control Focus keyboard shortcut (Tab) is supported only for the Timeline, not for other panels or the Property inspector.

Selecting panels or the Property inspector with keyboard shortcuts

You can select a panel or the Property inspector (also referred to as applying *focus* to the panel or Property inspector) by using the keyboard shortcut Control+Alt+Tab (Windows) or Command+Option+Tab (Macintosh).

You can apply focus to a panel or the Property inspector only when the panel or Property inspector is open. It can be expanded or collapsed.

When you use the keyboard shortcut to select panels, focus is applied to panels using the following criteria:

- Docked panels are given focus first.
- If the Timeline is displayed and docked, the Timeline is given focus the first time you press Control+Alt+Tab (Windows) or Command+Option+Tab (Macintosh).
- If the Timeline is not displayed and docked, or if you press the keyboard shortcut again, focus moves to the rightmost and highest docked panel. Pressing the keyboard shortcut repeatedly then moves the focus through the other docked panels, from right to left and from top to bottom of the workspace.
- If you move the focus through all the docked panels, or if there are no docked panels displayed, focus then moves to the rightmost and highest floating panel. Pressing the keyboard shortcut repeatedly then moves the focus through the other floating panels, from right to left and from top to bottom of the workspace.

To use keyboard shortcuts to select or deselect, expand, or collapse panels or the Property inspector:

- To move the focus through the panels currently displayed in the workspace, press Control+Alt+Tab (Windows) or Command+Option+Tab (Macintosh).
- To move the focus to the previously selected panel, press Control+Shift+Alt+Tab (Windows) or Command+Shift+Option+Tab (Macintosh).
- To deselect a panel, press Escape, or move, dock, or undock the panel.
- To move the focus to the panel above or below the current panel in a panel group, press the Up Arrow or Down Arrow key.

To use keyboard shortcuts to expand or collapse panels or the Property inspector:

- Press the Spacebar to expand or collapse the currently selected panel.

To hide all panels and the Property inspector:

- Press F4. Press F4 again to display all panels and the Property inspector.

Selecting controls in a panel or the Property inspector using keyboard shortcuts

When a panel or the Property inspector has the current focus, you can use the Tab key to move the focus through the panel controls. You can use the Spacebar to activate the control that has the current focus (that is, pressing Spacebar is equivalent to clicking a control in the panel).

When you use the keyboard shortcut for panel controls, focus is applied to a control and the control is activated using the following criteria:

- The panel with the current focus must be expanded in order for you to select a control in the panel with the Tab key. If the panel is collapsed, pressing the Tab has no effect.
- When panel with the current focus is expanded, pressing the Tab key the first time moves the focus to the panel options menu.
- You can use the Right Arrow and Left Arrow keys to move the focus between the options menu and the panel title bar.
- If the focus is on the options menu, pressing the Tab key again moves the focus through the other controls in the panel. Pressing the Tab key again will not return the focus to the panel options menu.
- When the options menu has the focus, you can press Enter (Windows only) to display the options menu items.
- In panels that are grouped, you can use the Up Arrow and Down Arrow keys to move the focus between the options menus of the panels in the group.
- You can move the focus to a panel control only if the control is active. If a control is dimmed (inactive), you cannot apply focus to the control.

To move the focus from a panel title bar to a panel options menu, do one of the following:

- Press the Tab key.
- Press the Right Arrow key. Press the Left Arrow key or Shift+Tab to return the focus to the panel title bar.
- If the panel is in a group, press the Up Arrow key to move the focus to the options menu of the panel immediately above the panel with the current focus. Press the Down Arrow key to move the focus to the options menu of the panel immediately below the panel with the current focus.

To move the focus through the items in a panel options menu:

- 1 With the focus currently applied to the panel options menu, press the Spacebar to display the options menu items.
- 2 Press the Down Arrow key to move through the items in the options menu.
- 3 Press Enter (Windows) or Return (Macintosh) to activate the currently selected options menu item.

To move the focus through the controls in a panel:

- 1 Press the Tab key when the focus is currently applied to the panel options menu. Press the Tab key repeatedly to move the focus through the controls in the panel.
- 2 Press Enter (Windows only) to activate the currently selected panel control.

Navigating dialog box controls using keyboard shortcuts (Windows only)

In Windows operating systems, you can use keyboard shortcuts to navigate controls in dialog boxes. You can move from one control to another, apply controls, or cancel and exit the dialog box.

To navigate dialog box controls using keyboard shortcuts, do any of the following:

- Press Tab to move through the controls in the dialog box.
- To move through the controls within one section of a dialog box, press the Up Arrow and Down Arrow keys. For example, in the Spelling Setup dialog box, press the Up Arrow and Down Arrow keys to move through the controls within the Document Options section.
- When the focus is applied to a dialog box control button—such as the OK, Cancel, or Apply button—press Enter to activate the button (equivalent to clicking the button).
- When the focus is not applied to any dialog box control button—such as the OK, Cancel, or Apply button—press Enter to apply the current settings and close the dialog box (equivalent to clicking OK).
- Press Escape to close the dialog box without applying the changes (equivalent to clicking Cancel).
- When the focus is applied to the Help button, press Enter or Spacebar to view the Help content for the dialog box (equivalent to clicking Help).

Selecting the Stage or objects on the Stage using keyboard shortcuts

You can select the Stage or an object on the Stage using keyboard shortcuts. Selecting the Stage with a keyboard shortcut is equivalent to clicking on the Stage. Any other element currently selected becomes deselected when the Stage is selected.

Once the Stage is selected, you can use the Tab key to navigate through all objects on all layers, one at a time. You can select instances (including graphic symbols, buttons, movie clips, bitmaps, videos, or sounds), groups, or text fields. You cannot select shapes (such as rectangles) unless those shapes are instances of symbols. You cannot select more than one object at a time using keyboard shortcuts. Objects are selected on the Stage using the following criteria:

- If an object is currently selected, pressing Shift+Tab selects the previous object.
- Pressing Tab the first time selects the first object that was created on the active frame in the active layer. When the last object on the top layer is selected, pressing Tab moves to the next layer beneath it and selects the first object there, and so on.
- When the last object on the last layer is selected, pressing Tab moves to the next frame and selects the first object on the top layer there.
- Objects on layers that are hidden or locked cannot be selected with the Tab key.

Note: If you are currently typing text into a text box, you cannot select an object using the keyboard focus. You must first change the focus to the Stage and then select an object.

To select the Stage:

- Press Control+Alt+Home (Windows) or Command+Option+Home (Macintosh).

To select an object on the Stage:

- With the Stage selected, press Tab.

Navigating tree controls using keyboard shortcuts

You can navigate *tree controls*, the hierarchical displays of file structures in certain Flash panels, using keyboard shortcuts. You can expand and collapse folders in the tree control and move up and down between parent and child folders.

To navigate tree controls with keyboard shortcuts, do any of the following:

- To expand a collapsed folder, select the folder and press the Right Arrow key.
- To collapse an expanded folder, select the folder and press the Left Arrow key.
- To move to the parent folder of an expanded folder, press the Left Arrow key.
- To move to the child folder of an expanded folder, press the Right Arrow key.

Working with library items using keyboard shortcuts

You can cut, copy, and paste library items using keyboard shortcuts. You can cut or copy an item from the Library panel and paste it onto the Stage or into another library, or paste a folder into another library. If you paste a folder, each item in the folder is included.

You can use keyboard shortcuts to select a library item. See [“Navigating tree controls using keyboard shortcuts” on page 45](#)

Items are cut, copied, and pasted using the following criteria:

- You can cut or copy one item or multiple items.
- You cannot paste a shape from the Stage into the library.
- You cannot paste a library item into a common library, because common libraries cannot be modified. However, you can create a new common library. See “Working with common libraries” in Using Flash Help.
- When you paste a library item onto the Stage, the item is centered.
- To paste a library item into a folder in the destination library, you can click on the folder before pasting.
- You can paste a library item into a different location in the same library where it originated.
- If you attempt to paste a library item into a location containing another item by the same name, you can select whether to replace the existing item.

To cut, copy, and paste library items using keyboard shortcuts:

- To copy or paste a selected library item, press Control+X (Windows) or Command+X (Macintosh) to cut the item, or press Control+C (Windows) or Command+C (Macintosh) to copy the item.
- To paste a cut or copied item, click on the Stage or in another library to set the insertion point, and press Control+V (Windows) or Command+V (Macintosh) to paste in the center of the Stage, or press Control+Shift+C (Windows) or Command+Shift+C (Macintosh) to paste in place (in the same location as the original).

CHAPTER 4

Building Your First Application

This chapter provides a tutorial that guides you through the process of creating a simple application using some of the authoring features in Macromedia Flash MX 2004 and Macromedia Flash MX Professional 2004. A Flash application, broadly defined, can be as simple as content that offers interactivity, or as elaborate as a robust application that interacts with a variety of data sources.

In this tutorial, after examining an existing Flash document, you'll begin by creating a new Flash document and end by publishing the application for web playback. The tutorial should take approximately 20 minutes to complete.

If you have not already done so, we recommend that before you take this tutorial you read [Chapter 3, "Getting to Know the Workspace,"](#) on page 21.

Workflow for building an application

The tutorial in this chapter follows the order of one possible workflow for creating a Flash application.

- ["Examine a completed application" on page 48](#) shows you how to work with an application. In the process, you become familiar with the Flash workspace.
- ["Create a new document" on page 50](#) is the starting point for creating your own new application.
- ["Add media content" on page 51](#) shows you how to quickly add vector artwork, text, bitmap images, video, sound, buttons, and movie clips to your application.
- ["Add navigation controls" on page 55](#) introduces you to the built-in components and behaviors provided with Flash that let you drag navigation buttons and other user interface elements to your application.
- ["Add motion and basic interactivity" on page 56](#) shows you how to add built-in effects and behaviors to your application.
- ["Test the application" on page 57](#) shows you how to preview your application in the Flash Player to verify it is working correctly before you publish it.
- ["Publish and view the application" on page 57](#) shows you how to get your application ready for deployment on the web or wherever else you want to publish it.

Examine a completed application

As you examine the finished version of an application you'll create, you will also take look at the Flash workspace.

In this section, you'll learn how to complete the following tasks:

- “Run the completed application” on page 48
- “Open the authoring document” on page 49
- “Examine the completed application” on page 49
- “Close the application” on page 50

In subsequent sections you'll go through the steps to create the application yourself.

Run the completed application

To better understand the type of application you'll create as you take this tutorial, you can analyze a completed version of the application. You can play the SWF file in the Flash Player. Published Flash applications have the SWF file extension. Documents saved in the authoring environment have the FLA file extension.

- 1 In Flash select File > Open.
- 2 Browse to the completed file using one of the following paths:
 - If you're using Windows 2000 or XP, browse to <boot drive>\Documents and Settings\
<username>\Local Settings\Application Data\Macromedia\Flash MX 2004\<language>\
Configuration\HelpPanel\Help\GettingStarted\finished_files and double-click
myad_finished.swf.
Note: If the Application Data folder is hidden, you'll need to change your Windows Explorer settings to see the folder.
 - If you're using a Windows 98 operating system, browse to <boot drive>\Windows\
Application Data\Macromedia\Flash MX 2004\<language>\Configuration\HelpPanel\
Help\GettingStarted\finished_files and double-click myad_finished.swf.
 - If you're using a Macintosh operating system, browse to <Macintosh HD>/Users/
<username>/Library/Application Support/Macromedia/Flash MX 2004/<language>/
Configuration/HelpPanel/Help/GettingStarted/finished_files and double-click
myad_finished.swf.

The completed application runs in the Flash Player. The car fades out after a while.

- 3 Click the Information button to see where it links, then close the browser that opened and return to the SWF file.
- 4 After viewing the application, click its close box.

Open the authoring document

It's helpful to analyze the completed authoring document, which is a FLA file, to see how the author designed the application.

- 1 In Flash, select File > Open.
- 2 Browse to the authoring document using one of the following paths:
 - If you're using Windows 2000 or XP, browse to <boot drive>\Documents and Settings\
<username>\Local Settings\Application Data\Macromedia\Flash MX 2004\<language>\
Configuration\HelpPanel\Help\GettingStarted\finished_files and double-click
myad_finished fla.

Note: If the Application Data folder is hidden, you'll need to change your Windows Explorer settings to see the folder.

 - If you're using a Windows 98 operating system, browse to <boot drive>\Windows\
Application Data\Macromedia\Flash MX 2004\<language>\Configuration\HelpPanel\
Help\GettingStarted\finished_files and double-click myad_finished fla.
 - If you're using a Macintosh operating system, browse to <Macintosh HD>/Users/
<username>/Library/Application Support/Macromedia/Flash MX 2004/<language>/
Configuration/HelpPanel/Help/GettingStarted/finished_files and double-click
myad_finished fla.

You now see the completed tutorial application in the authoring environment.

Examine the completed application

You'll become more familiar with the Flash workspace as you examine the authoring file. For comprehensive information about the workspace, see [Chapter 3, "Getting to Know the Workspace,"](#) on page 21.

In this section, you'll take a look at some of the most frequently used workspace features:

The Stage is the area that represents how your published content will appear. The myad_finished fla file has a car, logo, button, text, and shapes assembled on the Stage.

For more information about the Stage, see ["Using the Stage"](#) on page 22.

The Timeline, above the Stage, displays a layer for the art and a layer for the effects in the document. For more information about the Timeline, see ["Using the Timeline"](#) on page 23.

Panels in Flash assist you in working with and assigning attributes to the document or to objects on the Stage. For more information about panels, including how to dock and move them, see ["Using panels and the Property inspector"](#) on page 35.

The Property inspector allows you to view and change attributes of a selected object. The Property inspector changes to display information about the tool or asset you are working with, offering quick access to frequently used features. For more information about the Property inspector, see ["Using panels and the Property inspector"](#) on page 35.

The Library panel stores reusable items such as graphics, sound, and video clips. When you want to use a library item, you simply drag it from the Library panel to the Stage. You'll learn more about the Library panel next.

View the library for your document

You can view library items for your document in the Library panel.

- 1 If the Library panel isn't open, select Window > Library.
- 2 View or scroll through the assets in the Library panel.
- 3 When you finish viewing the library assets, collapse the panel.

Close the application

- To close the document, select File > Close.
If you've made changes to the file, do not save them.

Create a new document

Now that you have had a tour of the application you will create and of the Flash workspace, it is time to create your own Flash document. To learn how to create an application in Flash, you'll start with the very first step in the process: creating a new file.

In this section, you'll learn how to complete the following tasks:

- [“Open a new document” on page 50](#)
- [“Define document properties” on page 51](#)

Open a new document

Now you're ready to create your own version of the ad.

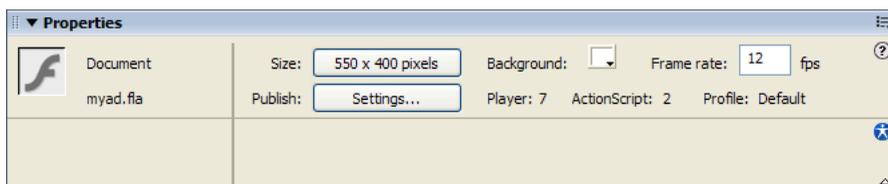
- 1 Select File > New.
- 2 Select Flash Document and read the description of the file type that appears, and then click OK.
- 3 Select File > Save.
- 4 Name the file **myad.fla** and save the file on your desktop or in any convenient location.
The file is given the extension .fla.

Note: As you complete the tutorial, remember to save your work frequently.

Define document properties

Configuring document properties is a common first step in authoring. You can use the Property inspector to specify settings that affect the entire application, such as the frames per second (fps) playback rate, and the Stage size and background color.

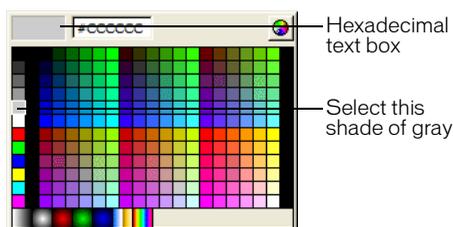
- 1 If the Property inspector isn't open, select **Window > Properties**.



The Property inspector lets you view and change the specifications for selected objects. The specifications depend on the type of object selected. If you select a text object, for example, the Property inspector displays settings for viewing and modifying text attributes. Because you have just opened a new document, the Property inspector shows the document settings.

Note: If the Property inspector is not fully expanded, click the white triangle in the lower right corner.

- 2 In the Property inspector, verify that 12 is the number in the Frame Rate text box. The application will play at 12 frames per second, an optimal frame rate for playing animations on the web.
- 3 The Background color box indicates the color of the Stage. Click the down arrow on the Background Color box, then move the Eyedropper tool over the color swatches to view their hexadecimal values in the Hexadecimal text box.
- 4 Find and click the gray color swatch with the hexadecimal value of #CCCCCC.



For more information about setting document properties, see “Creating or opening a document and setting properties” in Using Flash Help.

Add media content

Media content includes artwork, either created in Flash or imported from another program, and text. Media is added to the Stage in the appropriate frame and layer.

In this section, you'll learn how to complete the following tasks:

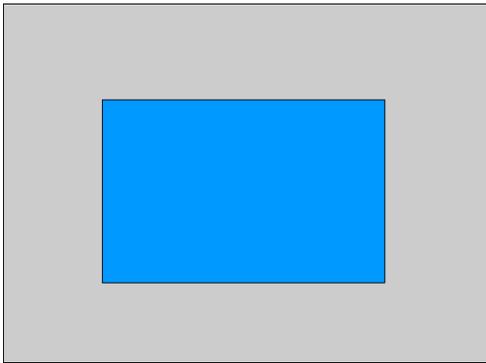
- “Add vector art” on page 52
- “Import images into the library” on page 53
- “Add art from the library” on page 54
- “Add text” on page 54

Add vector art

When you draw in Flash, you create vector art, which is a mathematical representation of lines, curves, color, and position. Vector art is resolution-independent; you can rescale the art to any size or display it at any resolution without losing clarity. Additionally, vector art downloads faster than comparable bitmap images.

You will begin by drawing a rectangle to highlight the area where the car will be.

- 1 Double-click the Layer 1 name in the Timeline.
- 2 Type over the name Layer 1, replacing it with the name **Art**.
Art is now the active layer. Anything you place on the Stage will be in this layer.
- 3 Select the Rectangle tool from the toolbar.
- 4 On the Stage, draw a rectangle, similar to the one below, toward bottom of your screen.
(The colors are not important right now; you'll change the colors soon.)



The drawing tools work much as they do in other graphics programs, with one major exception. When you draw a shape, it has two parts: the outer line, called the stroke, which outlines the shape, and the fill, which colors the inside of the shape.



- 5 Click the Selection tool in the toolbar.
- 6 Holding down the mouse button, draw a rectangle around the rectangle you just drew. This selects the entire rectangle.
Now the Property inspector displays settings for a shape. You can use the Property inspector to change the line thickness, fill and stroke colors, and other attributes of the selected rectangle.
- 7 In the Property inspector, change the color of the fill to dark gray (hexadecimal #333333).



- 8 Change the color of the stroke to the same dark gray.



Import images into the library

To use media files, such as graphics, sound, and video files, you need to put them into your file or use the library of another file that already has those media elements.

When you import a file into Flash, you can import it directly into the library or you can import it onto the Stage. In this case, you will import images into the library of your file. You can then use these images to finish your slide show.

For more information about importing files, see “Placing artwork into Flash” in Using Flash Help.

- 1 If the Library panel is not open, select Window > Library.

At this time there is nothing in the library.

- 2 Select File > Import > Import to Library.

- 3 Browse to one of the following paths:

- If you're using Windows 2000 or XP, browse to <boot drive>\Documents and Settings\
<username>\Local Settings\Application Data\Macromedia\Flash MX 2004\<language>\
Configuration\HelpPanel\Help\GettingStarted\start_files\Assets. Select logo.ai and car.png
to import.

Note: If the Application Data folder is hidden, you'll need to change your Windows Explorer settings to see the folder.

- If you're using a Windows 98 operating system, browse to <boot drive>\Windows\
Application Data\Macromedia\Flash MX 2004\<language>\Configuration\HelpPanel\
Help\GettingStarted\start_files\Assets. Select logo.ai and car.png to import.
- If you're using a Macintosh operating system, browse to <Macintosh HD>/Users/
<username>/Library/Application Support/Macromedia/Flash MX 2004/<language>/
Configuration/HelpPanel/Help/GettingStarted/start_files/Assets. Select logo.ai and car.png
to import.

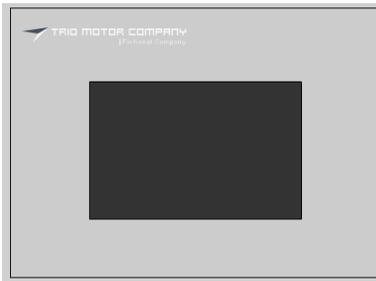
- 4 In the Illustrator Import dialog box, verify that Layers and Include Invisible are selected, and click OK.

The two images are now in the library.

Add art from the library

Now that the files are in the library, you can add them to your document.

- 1 Using the Selection tool, drag logo.ai from the Library panel onto the Stage and place it as shown in the following illustration:



- 2 Next, drag car.png from the Library panel onto the Stage and place it in the middle of the rectangle you drew, as in the following illustration:

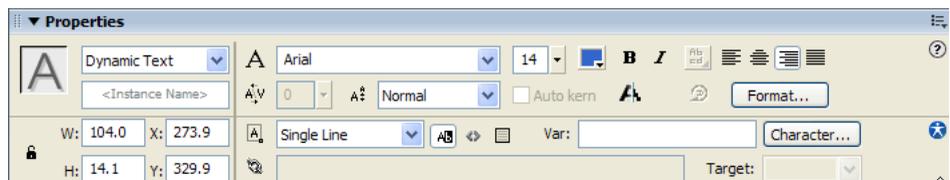


Add text

The next step is to add text on the Stage.



- 1 Select the Text tool from the toolbar and click on the Stage, under the car.
A text field appears, with a round control that indicates that the field will expand as you type.
- 2 You can specify all the settings for the Text tool before you start typing. In the Property inspector, do the following:
 - In the Font text box, select Arial
 - In the Point Size text box, type 14.
 - In the Text (fill) color box, select blue (hexadecimal 3366CC).
 - Verify that additional settings appear as in the following screen shot:



- 3 Type **Don't let your dream car fade away!** Click [here for more information](#).
- 4 If necessary, click the Selection tool in the toolbar and move the text so that it's more centered under the car on the Stage.

Add navigation controls

You can easily add navigation controls to your application so that users can click a button to go to a website. You can do this quickly by adding a PushButton component to the Stage, then adding behaviors to the button to make it go to a URL.

In this section, you'll learn how to complete the following tasks:

- [“Add and configure components” on page 55](#)
- [“Add a behavior” on page 56](#)

Add and configure components

Components are drag-and-drop elements that you use to create a user interface almost instantly. You will use the Button component to create the Information button.

For more information about components, see [Using Components Help](#).

The Flash built-in components are displayed in the Components panel (Window > Development Panels > Components).

You will add a Button component to create the Information button.

- 1 Click the Selection tool in the toolbar.
- 2 From the Components panel, drag the Button component onto the Stage, as shown below.



- 3 On the Stage, select the button that you just added and configure it using the Parameters tab of the Property inspector:
 - In the Instance name text box, type **info**.
 - In the Label text box, type **Information**. As you type, the name of the button on the Stage changes from Button to Information.

Add a behavior

Next, you'll add a behavior to the button that will make it open a website. Behaviors enable you to add the power, control, and flexibility of ActionScript coding to your document without having to create the ActionScript code yourself. You can use behaviors to control movie clips, video, and sound files.

You'll use the Go to Web Page behavior to add navigation to a button that opens a website.

- 1 On the Stage, click the Button component that you added.
- 2 If the Behaviors panel is not already open, select **Window > Development Panels > Behaviors** to open it.
- 3 Click the Add (+) button at the top of the panel to display a list of behaviors.
- 4 Select **Web > Go to Web Page**.
The Go to URL dialog box appears.
- 5 In the URL text box, type any complete URL, such as **http://www.macromedia.com**. Then click OK.
When the user clicks the button, a browser will open for the specified URL.
- 6 Save your file.

Add motion and basic interactivity

The ad is almost complete. The next step before testing and publishing it is to add the motion that makes the car fade away. With just a few keystrokes, you can add motion to an object using the built-in Timeline effects provided with Flash.

In this section, you'll learn how to complete the following tasks:

- [“Add a Timeline effect” on page 56](#)
- [“Extend a layer in the Timeline” on page 57](#)

Add a Timeline effect

Timeline effects are powerful tools that you can use to create an instant animation. In this example, you'll add a fade-out effect.

For more information about effects, see “Using Timeline effects” in Using Flash Help.

- 1 With the Selection tool, click the car on the Stage.
The box around the car indicates that it is selected.
- 2 Do one of the following:
 - Select **Insert > Timeline Effects > Transition**.
 - **Right-Click (Windows) or Control-Click (Macintosh)** and select **Timeline Effects > Transition** from the context menu.
The Transition dialog box appears, displaying a preview of the effect, with default settings.
- 3 Because you only want the car to fade, and you do not want a wipe transition, deselect **Wipe**.
- 4 For the **Direction**, select **Out** for the car to fade out.
- 5 Click **Update Preview** to view the effect with the new settings, then click **OK**.
A new layer named **Transition 1** appears in the Timeline.

- 6 In the Timeline, click the Transition 1 layer title and drag it up so that it is the top layer and the Art layer is the bottom layer. Otherwise, the content on the Art layer appears over the content on the Transition 1 layer and hides the car.
- 7 Choose Control > Test Movie to test the document in the Flash Player.
The car fades out as expected; however, the text and the rest of the artwork disappear from the Stage very quickly, before the fade-out ends. The application continues to loop and play again.

Extend a layer in the Timeline

The reason the fade-out effect lasts longer than the rest of the application is apparent when you look at the Timeline. The Fade Out 1 layer extends to Frame 30, whereas the Art layer is only on Frame 1. As each frame is played in sequence, the Art layer (Frame 1) disappears until the application loops back to the beginning. To solve this problem, you will simply extend the Art layer so that it is longer than the Fade Out layer.

- 1 In the Timeline, right-click Frame 1 in the Art layer, which has the filled black keyframe. From the context menu, select Copy Frames.
- 2 Right-click Frame 30 in the Art layer. From the context menu, select Paste frames.
Frames with content in the Art layer now extend to Frame 30.

Test the application

At any point during authoring, you can test how your application plays as a SWF file.

- 1 Select File > Save to save your application.
- 2 Save your application and Select Control > Test Movie.
- 3 Click the Information button to go to the website you specified in the behavior.
- 4 View the animation to verify that it plays as expected.
- 5 When you finish viewing the application, close the SWF file by clicking its close box.

Publish and view the application

To complete your document, you use the Publish command to create a web-compatible application as a SWF file.

If you use the Publish command with the default settings, Flash prepares your file for the web. Flash publishes the SWF file and creates an HTML file with the tags necessary to display the SWF file.

After you define the necessary publish settings, you can repeatedly export to all selected formats at once by simply choosing File > Publish. Because Flash stores your publish settings with the document, each application can have its own settings.

In this section, you'll learn how to complete the following tasks:

- [“View publish settings” on page 58](#) in one step
- [“View your published application in a browser” on page 58](#)

Publish the application

You can publish your Flash document for web playback in one step, by selecting File > Publish. Before you publish, however, you'll check your publish settings.

View publish settings

Using the Publish Settings dialog box, you can easily change the way your file is published.

- 1 To view your publish settings, choose File > Publish Settings.
Flash is configured, by default, to create a supporting HTML file that displays the Flash application.
When you select a format that requires additional settings, a new tab appears.
- 2 On the Formats tab, verify that Flash (.swf) and HTML (.html) are selected. Click the Flash tab.
By default, the application publishes for the Flash Player.
- 3 Click the HTML tab.
By default, the publishing process creates an HTML document that inserts your SWF file in a browser window. Settings on the HTML tab of the Publish Settings dialog box determine how the application appears in the browser.
- 4 If Detect Flash Version is selected, deselect that option so that Flash will not create files to detect your user's Flash Player version.

Change publish settings

By default, Flash gives the SWF file the same name as the FLA file. You will now change the default name.

- 1 Click the Formats tab of the Publish Settings dialog box. In the HTML (.html) text box, select the existing text and type **newAd.html**.
- 2 Click Publish. When the Publishing status window closes, click OK in the Publish Settings dialog box.
- 3 Save your document. Publish settings save with the document, so the next time you want to publish using the same settings, you can select File > Publish.

Note: You can also create publish profiles. See “Creating a publish profile” in Using Flash Help.

View your published application in a browser

In your browser, you can view the HTML file and SWF application that you just published.

- 1 Open your browser, then open the HTML file that you created, named newAd.html.
By default, the HTML file is in the same folder as your FLA file.
When you open the HTML file, the SWF application plays within your browser.
- 2 In your browser, use a command such as View > Page Source or View > Source to view the HTML.
The `object` and `embed` tags ensure that the SWF application is displayed within the browser.

The next steps

By completing this tutorial, you've learned much about creating Flash applications, including how to accomplish the following tasks:

- [Create a new document](#)
- [Add media content](#)
- [Add navigation controls](#)
- [Add a behavior](#)
- [Add motion and basic interactivity](#)
- [Test the application](#)

There are many valuable resources you can use to help you as you continue working with Flash. For more information, see the next section.

Resources

Macromedia has excellent resources to help you discover more about Flash, get support, and send feedback to the company.

Registration

Register to receive up-to-the-minute notices about upgrades and new products, technical support, and more. You can register online by selecting Help > Online Registration. You can also print the registration form from the Help menu.

Release Notes

Check the Flash Support Center, at www.macromedia.com/support/flash/releasenotes.html, for Release Notes, which contain late-breaking information and known issues about Flash.

Flash support

Get the answers you need, day or night, with high-quality Flash support from knowledgeable product support engineers. Learn more at www.macromedia.com/go/fl2004_help_support.

Flash training and certification

Boost your Flash skills with hands-on tasks and real-world scenarios - allowing you to roll up your sleeves and get right to work. Choose between instructor-led and online training, or combine them to create a learning path that is most effective for you. Learn more at www.macromedia.com/go/flash_training.

Macromedia Flash Development Center

Stay up to date with the latest Macromedia Flash development trends and techniques. Tutorials, articles, and sample applications give you the information you need to stay competitive, innovative, and efficient. Learn more at www.macromedia.com/devnet/mx/flash.

On Demand seminars

Evaluating a new product can be difficult, and each version introduces new features to navigate. Enter Macromedia On Demand seminars, the fastest way to get up to speed quickly. Our seminars feature multimedia presentations and demos designed to help you maximize your evaluation experience with our products. To learn more, go to www.macromedia.com/macromedia/events/online/ondemand/index.html.

Sample applications

Flash includes sample files that you can dissect to learn various design and development concepts. To view SWF versions of the sample files, along with a description, select Help > Samples. Some of the samples are complete applications, while others are simple and intended to introduce a basic concept. Click the link of the desired sample to open the sample in an HTML browser window. To view the authoring version (FLA file) for a given sample, open the file from within Flash. You'll find the sample files in the Samples folder, which is in your Flash application directory. The Samples page (Help > Samples) also includes a link to the Macromedia website, where you'll find additional samples.

Books and Training section of the Macromedia Worldwide Store

Using Flash, *ActionScript Reference Guide*, and *Using Components* are provided in electronic format (online help and PDF). To purchase a printed copy of these books, please visit www.macromedia.com/go/books_and_training/.

Additional resources

The following Macromedia web pages include reference materials and links to third-party Flash resources:

- Websites devoted to Macromedia Flash and Flash developers at www.macromedia.com/support/flash/ts/documents/flash_websites.htm
- Macromedia Press at www.macromedia.com/support/mmpress/

INDEX

A

- accessibility, in the Flash authoring environment 42
- Actions panel 36
- activating Flash 16
- applications
 - publishing and viewing 57
 - sample 60
 - testing 57
 - viewing published in a browser 58
- art, adding from the library 54
- authoring environment accessibility 42

B

- behavior, adding 56
- bitmap images, anti-aliasing 39
- Bitmaps on Clipboard preference (Windows only) 39
- Blank Keyframe command 26
- building an application, tutorial 47

C

- Center Frame button 25
- certification and training 59
- Clear Keyframe command 27
- Clipboard preferences 39
- components, adding and configuring 55
- configuring a server for Flash Player 18
- context menus, about 41
- Copy Frames command 27
- copying
 - layer folder contents 30
 - layers 30
- Customize Shortcuts dialog box 40
- Customize Toolbar command 33

D

- Default Layout command, for panels 37
- deleting
 - frames or keyframes 27
 - layers and layer folders 31
- document, creating new 50
- document-editing mode 34

E

- edit bar 32
- editing layers and layer folders 30

F

- Flash
 - about 7
 - activating 16
 - getting started 7
 - system requirements 15
- Flash MX 2004 system requirements 15
- Flash MX Professional 2004 system requirements 15
- Flash Player
 - about 7
 - changing or uninstalling 17
 - security 19
 - system requirements 16
- Flash Player 7 system requirements 16
- Font Mapping Default preference 39
- Frame command 26
- Frame View button 25
- Frame View menu 25
- frames
 - centering the playhead in 25
 - changing the view 25
 - converting keyframes into 27
 - copying and pasting 27
 - copying by dragging 27
 - displayed in Timeline 23

- displaying 24
- displaying contents 23
- dragging in Timeline 27
- editing in Timeline 26
- inserting 26
- removing 27
- showing thumbnails 26
- thumbnail display 25
- using 26

FreeHand Text on Clipboard preference 39

G

Gradients on Clipboard preference (Windows only) 39

grids

- editing 34
- showing 33
- snapping to 33
- using 33

guide layers 31

guides

- clearing 35
- locking 34
- moving 34
- removing 34
- setting preferences 35
- showing 34
- snapping to 34
- using 34

H

Hand tool 23

help

- accessing 11
- closing table of contents 12
- online 11
- printing a page 12

Help panel

- searching in 12
- updating 14
- using 11

Highlight Color preference 39

I

images, importing into library 53

Insert Blank Keyframe command 26

Insert Keyframe command 26

Insert Layer command 28

installing Flash 15, 16

instructional media 11

interactivity, adding basic 56

K

keyboard shortcuts

- adding and removing 41
- customizing 40
- deleting 41
- for dialog box controls 44
- for library items 46
- for panel controls 43
- for panels 42
- for Property inspector 42
- for Property inspector controls 43
- for the Stage 45
- for tree controls 45

Keyframe command 26

keyframes

- converting into frames 27
- creating blank 26
- dragging in tweened frame sequences 27
- inserting 26
- removing 27
- using 26

L

Layer command 28

layer folders

- changing order of 31
- copying contents of 30
- creating 28
- deleting 31
- editing 30
- locking 30
- organizing 31
- renaming 30

layers

- Add Layer button 28
- adding layer folder 28
- changing layer height 29
- changing number of layers displayed 29
- changing order of 31
- changing outline color 29
- copying 30
- creating 28
- deleting 31
- editing 30
- guide layers 31
- hiding and showing 28, 29

- locking 30
 - organizing 31
 - renaming 30
 - selecting 30
 - using 27
 - viewing as outlines 29
 - lessons, Flash 11, 12
 - library
 - adding art from 54
 - importing images into 53
 - keyboard shortcuts for items 46
 - Library panel
 - about 36, 49
 - viewing items 50
 - locking layers and layer folders 30
- M**
- Macromedia Flash Development Center 59
 - Macromedia Flash support 59
 - main toolbar 32
 - media content, adding 51
 - MIME types, configuring for 18
 - motion, adding 56
- N**
- Named Anchor on Scenes preference 38
 - navigation controls, adding 55
 - new features 8, 10
- O**
- On Launch preferences 39
 - outlines
 - changing color on layers 29
 - viewing layer contents as 29
- P**
- Panel Sets command 37
 - panels
 - about 49
 - Actions 36
 - arranging 37
 - closing 36, 37
 - collapsing 37
 - creating new group 37
 - default layout 37
 - deleting custom layout 38
 - docking 37
 - dragging 37
 - expanding 37
 - grouping 37
 - keyboard shortcuts 42
 - keyboard shortcuts for tree controls 45
 - Library 36
 - opening 36
 - resetting layout of 37
 - resizing 37
 - saving custom set 37
 - selecting layout 37
 - sets 37
 - ungrouping 37
 - using 36
 - using options menu 36
 - viewing list of 36
 - Paste Frames command 27
 - PICT Settings for Clipboard preference (Macintosh only) 39
 - playhead, moving 24
 - preferences
 - Bitmaps on Clipboard (Windows only) 39
 - Clipboard 39
 - editing 39
 - Font Mapping Default 39
 - FreeHand Text on Clipboard 39
 - general 38
 - Gradients on Clipboard (Windows only) 39
 - Highlight Color 39
 - Named Anchor on Scenes 38
 - On Launch options 39
 - PICT Settings for Clipboard (Macintosh only) 39
 - Printing Options (Windows only) 38
 - setting 38
 - Shift Select 38
 - Show Tooltips 38
 - Span Based Selection 38
 - Timeline Options 38
 - Undo Levels 38
 - warning 40
 - Preferences command 38
 - previewing frame thumbnails 25
 - Printing Options preference (Windows only) 38
 - Property inspector
 - about 35, 49
 - keyboard shortcuts 42
 - using panels and 35
 - publish settings
 - changing 58
 - viewing 58
 - published application, viewing in a browser 58
 - publishing the application 57

R

- registration 59
- release notes 59
- Remove Frame command 27
- renaming layers and layer folders 30
- resources 59, 60
- rulers
 - changing units of 35
 - showing and hiding 35
 - using 35

S

- security, Flash Player 19
- selecting layers 30
- seminars 60
- Shift Select preference 38
- Show All command 23
- Show Frame command 23
- Show Grid command 33
- Show Guides command 34
- Show Tooltips preference 38
- Snap to Grid command 33
- Snap to Guides command 34
- snapping
 - to grid 33
 - to guides 34
- Span Based Selection preference 38
- Stage
 - about 49
 - displaying entire 23
 - keyboard shortcuts for selecting 45
 - zooming 22
- Start page 14
- SWF files, configuring for server MIME type 18
- symbol-editing mode 34
- system requirements
 - Flash MX 2004 15
 - Flash MX Professional 2004 15
 - Flash Player 7 16

T

- testing the application 57
- text, adding 54
- third-party resources 60
- Timeline
 - about 49
 - appearance of, changing 24
 - Center Frame button 25
 - centering the playhead in 25

- converting keyframes into frames 27
- copying and pasting frames 27
- deleting frames or keyframes 27
- docking to the application window 24
- dragging 24
- dragging frames 27
- editing frames 26
- extending a layer in 57
- frame display, changing 25
- frames 26
- hiding layers in 28
- inserting frames 26
- keyframes 26
- layer folder order, changing 31
- layer height, changing 29
- layer name fields in 24
- layer order, changing 31
- locking layer folders in 30
- locking layers in 30
- number of layers displayed, changing 29
- playhead 24
- Preview in Context option 25
- Preview option 26
- resizing 24
- showing frame thumbnails 25, 26
- using 23
- viewing layers as outlines 29
- working with frames 23
- Timeline effect, adding 56
- Timeline Options preference 38
- toolbar
 - customizing 33
 - showing and hiding 32
 - using 32
- tools
 - customizing the toolbar 33
 - Hand 23
 - selecting 32
 - viewing 32
 - Zoom 22
- training and certification 59
- tree controls, keyboard shortcuts for 45
- trial mode
 - purchasing Flash 17
 - switching between editions 17
- tutorials
 - building an application 47
 - guide to 11
- tweened frames, dragging keyframes in 27

U

Undo Levels preference 38

upgrading from Macromedia Flash MX 2004 17

V

vector art, adding 52

viewing the application 57

W

warning preferences 40

work area, showing and hiding 23

Z

Zoom tool 22

zooming 22

