ColdFusion Web Development with Macromedia Dreamweaver MX 2004

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with
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and Eduardo Zubler

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About the Authors

Jen deHaan

Jen deHaan is a freelance "deseloper" (designer/developer) and has been involved in writing, contributing to, or editing 15 computer books on Flash, ActionScript, digital video, and ColdFusion between 2002 and 2004. Jen contributes her help and expertise through the busy and top-ranked community web sites `www.flash-mx.com` and `www.flashmx2004.com` and enjoys writing articles for other leading web sites on Flash, including Macromedia.com. Jen spent five years in university and graduated with a BFA in Art Education, and following this graduated with top honors in New Media. Jen, also an experienced teacher and entrepreneur, manages the local Macromedia user group. Jen's company is based in Calgary, Alberta, and she regularly develops web sites for clients in Canada, the United States, and Australia.

Peter deHaan

Peter deHaan comes from a computer science background and has been building web sites since 1995. He began working with ColdFusion in 1997, and has since built several sites using barcode scanners, e-commerce, and dynamic Flash. He has coauthored several books and articles with his wife, Jen.

Simon Horwith

Simon Horwith has been using ColdFusion since version 1.5. He's a member of Team Macromedia, a Macromedia certified instructor, and is an advanced certified ColdFusion and Flash Developer. For the past four years Simon has regularly spoken at the DevCon, MAX, CFUN, MXDC, CF Underground, and CF Europe conferences and has presented at countless CFUG meetings. In addition to writing code, teaching, and presenting at conferences and user groups, Simon tech edits and writes a monthly column for *ColdFusion Developers Journal*, has written and edited several ColdFusion books, and has written several whitepapers and Dev Net articles that can be found online. Simon is a private contractor who also works as Chief Technology Officer at eTRILOGY ltd., a small software development company in London.

For the past several years, Simon's professional focus has been toward software architecture theory and methodology and its implementation in CFML development. In early 2004 he launched cfstandards.org, a site devoted to defining CFML architecture and coding best practices and standards, as well as the development of free modules that allow common functionality to be easily integrated with existing CFML applications. When not writing code, Simon likes to play chess and three-cushion billiards, and he reads books on classical strategy and game theory.

Simon would like to thank Forest, Olivia, Ayesha, Mom, Dad, and Aimee for being who they are—which is what's made him who he is.

Curtis Hermann

Curtis P. Hermann is a seasoned senior Internet application developer specializing in Flash and ColdFusion development. He focuses on cutting-edge web technologies, is a certified Macromedia Flash MX developer, and an experienced Java and ColdFusion developer. Along with his dedication to software development, Curtis focuses on how quality assurance integrates with the software development process to ensure the best possible products. He has established a leadership role in the Flash development community by authoring articles published through the *ColdFusion Developer's Journal* (`http://www.sys-con.com/coldfusion/`). Curtis's articles include topics such as Flash development guidelines, such as Ramping Up On Flash MX 2004 (December 2003) and ActionScript 2.0 (January 2004) and Flash MX 2004 / ColdFusion MX Web Services Integration (March 2004). He owns and operates a web development consulting firm, iindwell, inc. (`www.iindwell.com`), heads the Flash MX development and quality-assurance department for WisdomTools.com (`www.wisdomtools.com`), and is the Internet outreach developer for Friends United Meeting (`www.fum.org`).

Massimo Foti

Massimo Foti began using Dreamweaver on the day the first beta was available, and has used Dreamweaver ever since.

Massimo has been a prolific extension developer since the pioneering days of Dreamweaver 1. He is the creator of massimocorner.com, and is winner of the Macromedia Best Extension Developer award in 2000 and Top New Extension award for Dreamweaver MX. He also cofounded dwteam.com. His extensions are featured on the Macromedia Exchange for Dreamweaver and have been featured in many books and magazines. A Team Macromedia Member for Dreamweaver, he is a certified Dreamweaver developer and certified advanced ColdFusion developer.

Edoardo Zubler

Edoardo Zubler is a multimedia developer who specializes in creating rich media applications for a wide range of devices and platforms. He has produced both front-end and back-end solutions for Tablet PCs, set top boxes, and handheld PDAs. Throughout his career, Edoardo has been involved in pioneering projects such as the development and implementation of a content repurposing system based on Macromedia Generator for the first regular digital terrestrial (DVB-t) data broadcasting service in Europe. He has developed many Flash-based rich client applications for fixed and mobile devices. As a Team Macromedia Volunteer, Edoardo has written several articles and developed a number of extensions for many Macromedia products including, FlashBang! with Joseph Lowery. He also runs Aftershape.com, his personal web site, where he showcases his "digital oddities."

Introduction

THIS BOOK EXPLORES the great partnership between ColdFusion, a fantastically powerful but easy to learn server-side scripting language originally released by the Allaire corporation in 1995, and Dreamweaver, Macromedia's world-class visual web-authoring tool, the original version of which first surfaced around 1997.

The product versions supported by this book are Dreamweaver MX 2004, which was released in late 2003, and ColdFusion MX 6.1 (the 6.1 release is a minor upgrade to the main ColdFusion MX version, available for free to those who already have MX, at `http://www.macromedia.com/software/coldfusion/productinfo/upgrade/`).

ColdFusion is one of the five server models available to Dreamweaver MX 2004 users (the others being ASP, ASP.NET, PHP, and JSP), so much integrated support it is provided fro ColdFusion in Dreamweaver MX 2004, especially because Macromedia now owns both products. By using Dreamweaver MX 2004, you can set up your ColdFusion web site, connect it to your database, put together all the code for the pages—and style them too—with very little hassle. The only other place you'll probably visit often is the ColdFusion Administrator, which provides even more power over your web sites.

In this book, we aim to do just one thing: teach you how to build great ColdFusion-based web applications using Dreamweaver MX 2004! We won't take you through an exhaustive tour of *every* tiny little Dreamweaver feature and obscure ColdFusion function; instead, we cover just the stuff you need to know in a concise, clear, and enjoyable manner.

It won't be long before you have mastered ColdFusion, so read on.

What's Inside?

Here is an overview of what each of this book's 13 chapters covers.

Chapter 1: Welcome to ColdFusion MX 6.1

This chapter provides a detailed introduction to the technology, including notes on ColdFusion's history and architecture, how to install it, and how to use the ColdFusion Administrator and set up a ColdFusion site in Dreamweaver MX 2004. Here we also take a very brief look at some basic CFML to give you a taste of the following chapters.

Chapter 2: Databases and Dreamweaver MX 2004

Now we look at one of the most important pieces in the ColdFusion puzzle: databases. Here we focus on what databases are and what different types are available (going on to examine the inner workings of a Microsoft Access database), using the Structured Query Language (SQL) to query databases, setting up data sources, and building queries and Recordsets in Dreamweaver MX.

Chapter 3: Introduction to ColdFusion Markup Language

The object of this chapter is to give you a detailed overview of how to start coding with ColdFusion Markup Language (CFML). Here we look at the most common CFML tags and their functionality, and we discuss what `Application.cfm` files are and how to use them.

Chapter 4: ColdFusion Variables and Logic

This chapter first looks at the different types of variable scope available for use in ColdFusion before going on to examine the available ColdFusion data types and functions in detail.

Chapter 5: Form Processing

Here we begin applying some of the base knowledge introduced in previous chapters, looking at building forms in ColdFusion and client- and server-side form validation (including some complete adaptable examples: an e-mail feedback form and a file upload form). We then go on to look at using checkboxes and multiple submit buttons in forms before rounding off the chapter by building some examples that make use of Dreamweaver MX's form-enhancing server behaviors.

Chapter 6: Database Manipulation

Databases are the order of the day again here. Building on the basic knowledge of Chapter 2, we explore using Recordsets with advanced queries and dynamic tables to display, update, and delete data from a database (incorporating a master/detail page set and Recordset paging). We then go on to build up a dynamic image gallery that includes image uploading functionality, and round off the chapter with a look

at some advanced database features: stored procedures, views, query of queries, caching queries, and query parameters.

Chapter 7: Maintaining State

This chapter looks at how we can use the Application, Client, Cookie, and Session scopes to maintain state across pages in a ColdFusion application, including creating cookies, Session variables and locks, using the Application scope within a content-management system, and enabling and deleting Client variables. This chapter finishes off by looking at using WDDX to display complex values within the Client scope, and understanding Cookie-less sessions.

Chapter 8: Exception Handling with CFML

Here we look at the mechanisms available to ColdFusion for handling errors and exceptions. We start with error handling at the server level via the ColdFusion Administrator, then look at handling errors at the application level with <cferror>. Next we show how to build more robust error-handling code by using <cfcatch>, <cftry>, <cfthrow>, and <cfrethrow>, and describe best practices for structured exception handling. Lastly, we cover debugging by using the ColdFusion Administrator, <cfdump>, and <cftrace>, protecting data integrity by using <cftransaction>, and the impact of Flash Web Services on application exception handling.

Chapter 9: Dreamweaver MX 2004 Extensions

We look at how to install and manage Dreamweaver MX Extensions by using the extension manager, how to use a couple of the more popular publicly available extensions, and how to build our own extensions (using the Server Behavior Builder) and distribute them.

Chapter 10: Code and Component Reuse

This chapter looks at the mechanisms available to Dreamweaver and ColdFusion for reusing code and components, including the <cfinclude> tag, ColdFusion user-defined functions (UDFs), ColdFusion custom tags, ColdFusion Components (CFCs), Dreamweaver Snippets, the Dreamweaver library, Dreamweaver templates, and Dreamweaver tag libraries.

Chapter 11: Working with XML in ColdFusion MX 6.1

Now it's time to explore ColdFusion's native XML-handling abilities. Here we take a quick look at what XML is, then go on to look at how ColdFusion can create XML dynamically and access and manipulate XML from external sources. We then examine how XPath can be used to parse and retrieve specific data from an XML document, and how XSLT can be used to transform XML into other markup.

Chapter 12: Flash MX 2004, Web Services, and ColdFusion MX 6.1

Chapter 12 delves deep into the world of Flash web services, specifically looking at how it can be used in conjunction with ColdFusion to dynamically transfer data to and from Flash applications. We start with a brief review of Flash and Flash web services and how they work, then go on to look at some increasingly complicated ColdFusion Flash web services examples.

Chapter 13: A Complete ColdFusion-Based Web Site

This last chapter is a case study that looks at the planning, design, and implementation of a complete ColdFusion-based web site, revisiting many of the techniques we have discussed over the course of the book.

Who's This Book For?

This book is for web professionals with some Dreamweaver knowledge who want to gain a solid understanding of the ColdFusion MX language, and learn to use Dreamweaver MX to create powerful, dynamic web applications with ColdFusion by using Dreamweaver's extensive built-in ColdFusion support.

What Do I Need to Begin?

To use this book, you primarily need a copy of Dreamweaver MX 2004 and a copy of ColdFusion server. If you have bought Studio MX 2004, you are in luck; this comes with a limited version of ColdFusion MX 6.1 Server, which can be used by only one user at a time. Although this would be no good for a production environment, it is perfect for developmental and testing purposes. You can also download the version 6.1 upgrade free from `http://www.macromedia.com/software/coldfusion/productinfo/upgrade/`, if you don't have it.

Secondarily, you need a copy of Microsoft Access (preferably XP or 2000) or another database of choice, a web server to run your examples through (see Chapter 1 for more details), and a web browser to view your examples. You also need a copy of Flash MX to work through the examples in Chapter 12, "Flash Web Services." A few more minor downloads are required over the course of the book, but we'll refer to these when required.

You'll also want to download the example code for this book, available from `http://www.apress.com`. This contains all the examples discussed in the book, making your job even easier.