Beginning VB 2008 Databases

From Novice to Professional

Vidya Vrat Agarwal and James Huddleston

Beginning VB 2008 Databases: From Novice to Professional

Copyright © 2008 by Vidya Vrat Agarwal and James Huddleston

All rights reserved. No part of this work may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage or retrieval system, without the prior written permission of the copyright owner and the publisher.

ISBN-13 (pbk): 978-1-59059-947-1 ISBN-10 (pbk): 1-59059-947-0

ISBN-13 (electronic): 978-1-4302-0560-9 ISBN-10 (electronic): 1-4302-0560-1

Printed and bound in the United States of America 9 8 7 6 5 4 3 2 1

Trademarked names may appear in this book. Rather than use a trademark symbol with every occurrence of a trademarked name, we use the names only in an editorial fashion and to the benefit of the trademark owner, with no intention of infringement of the trademark.

Lead Editor: Dominic Shakeshaft

Technical Reviewer: Fabio Claudio Ferracchiati

Editorial Board: Clay Andres, Steve Anglin, Ewan Buckingham, Tony Campbell, Gary Cornell, Jonathan Gennick, Matthew Moodie, Joseph Ottinger, Jeffrey Pepper, Frank Pohlmann,

Ben Renow-Clarke, Dominic Shakeshaft, Matt Wade, Tom Welsh

Senior Project Manager: Sofia Marchant

Copy Editor: Liz Welch

Associate Production Director: Kari Brooks-Copony

Senior Production Editor: Laura Cheu

Compositor: Linda Weidemann, Wolf Creek Press

Proofreader: Nancy Sixsmith

Indexer: Broccoli Information Management

Artist: April Milne

Cover Designer: Kurt Krames

Manufacturing Director: Tom Debolski

Distributed to the book trade worldwide by Springer-Verlag New York, Inc., 233 Spring Street, 6th Floor, New York, NY 10013. Phone 1-800-SPRINGER, fax 201-348-4505, e-mail orders-ny@springer-sbm.com, or visit http://www.springeronline.com.

For information on translations, please contact Apress directly at 2855 Telegraph Avenue, Suite 600, Berkeley, CA 94705. Phone 510-549-5930, fax 510-549-5939, e-mail info@apress.com, or visit http://www.apress.com.

Apress and friends of ED books may be purchased in bulk for academic, corporate, or promotional use. eBook versions and licenses are also available for most titles. For more information, reference our Special Bulk Sales—eBook Licensing web page at http://www.apress.com/info/bulksales.

The information in this book is distributed on an "as is" basis, without warranty. Although every precaution has been taken in the preparation of this work, neither the author(s) nor Apress shall have any liability to any person or entity with respect to any loss or damage caused or alleged to be caused directly or indirectly by the information contained in this work.

To my sweet little daughter (Pearly) and beloved wife (Rupali).

You are precious in my eyes, and honored, and I love you.

—Vidya Vrat Agarwal

Contents at a Glance

About the Authors		XX
About the Technica	ıl Reviewer	. xxii
Acknowledgments		XXV
Introduction		. xxvi
CHAPTER 1	Getting Your Tools	1
CHAPTER 2	Getting to Know Your Tools	15
CHAPTER 3	Getting to Know Relational Databases	25
CHAPTER 4	Writing Database Queries	35
CHAPTER 5	Manipulating Database Data	67
CHAPTER 6	Using Stored Procedures	89
CHAPTER 7	Using XML	. 109
CHAPTER 8	Understanding Transactions	. 123
CHAPTER 9	Getting to Know ADO.NET	. 143
CHAPTER 10	Making Connections	. 169
CHAPTER 11	Executing Commands	. 185
CHAPTER 12	Using Data Readers	. 203
CHAPTER 13	Using Datasets and Data Adapters	. 225
CHAPTER 14	Building Windows Forms Applications	. 267
CHAPTER 15	Building ASP.NET Applications	. 293
CHAPTER 16	Handling Exceptions	. 313
CHAPTER 17	Working with Events	. 331
CHAPTER 18	Working with Text and Binary Data	. 343
CHAPTER 19	Using LINQ	. 365
CHAPTER 20	Using ADO.NET 3.5	. 379
INDEX		305

Contents

About the Technic Acknowledgment	cal Reviewer	xxii xxv
CHAPTER 1	Getting Your Tools	1
	Obtaining Visual Studio 2008	2
	Installing SQL Server Management Studio Express	3
	Installing the Northwind Sample Database	4
	Installing the Northwind Creation Script	4
	Creating the Northwind Sample Database	6
	Installing the AdventureWorks Sample Database	9
	Installing the AdventureWorks Creation Script	9
	Creating the AdventureWorks Sample Database	
	Summary	. 13
CHAPTER 2	Getting to Know Your Tools	. 15
	Microsoft .NET Framework Versions and the Green Bit and Red Bit Assembly Model	15
	Using Microsoft Visual Studio 2008	
	Try It Out: Creating a Simple Console Application Project	
	Using Visual Studio 2008	. 18
	How It Works	
	Using SQL Server Management Studio Express	. 20
	Summary	. 24
CHAPTER 3	Getting to Know Relational Databases	. 25
	What Is a Database?	. 25
	Choosing Between a Spreadsheet and a Database	

	Why Use a Database?	26
	Benefits of Using a Relational Database Management System	26
	Comparing Desktop and Server RDBMS Systems	27
	Desktop Databases	27
	Server Databases	27
	The Database Life Cycle	28
	Mapping Cardinalities	29
	Understanding Keys	31
	Primary Keys	32
	Foreign Keys	32
	Understanding Data Integrity	32
	Entity Integrity	32
	Referential Integrity	33
	Normalization Concepts	33
	Drawbacks of Normalization	34
	Summary	34
	W.W. D. I. D	
CHAPTER 4	Writing Database Queries	35
	Comparing QBE and SQL	35
	Beginning with Queries	37
	Try It Out: Running a Simple Query	37
	How It Works	38
	Common Table Expressions	38
	Try It Out: Creating a CTE	39
	How It Works	40
	GROUP BY Clause	40
	To Broad Below the ODOUR BY O	40
	Try It Out: Using the GROUP BY Clause	
	Try It Out: Using the GROUP BY Clause How It Works	
	How It Works	41
	How It Works	41
	How It Works	41 42 42
	How It Works PIVOT Operator Try It Out: Using the PIVOT Operator	41 42 42
	How It Works PIVOT Operator Try It Out: Using the PIVOT Operator How It Works	41 42 42 43

	PARTITION BY Clause	45
	Try It Out: Using the PARTITION BY Clause	45
	How It Works	46
	Pattern Matching	46
	Try It Out: Using the % Character	47
	How It Works	47
	Try It Out: Using the _ (Underscore) Character	48
	How It Works	48
	Try It Out: Using the [] (Square Bracket) Characters	49
	How It Works	49
	Try It Out: Using the [^] (Square Bracket and Caret)	
	Characters	50
	How It Works	50
	Aggregate Functions	51
	Try It Out: Using the MIN, MAX, SUM, and AVG Functions	51
	How It Works	52
	Try It Out: Using the COUNT Function	52
	How It Works	53
	DATETIME Functions	53
	Try It Out: Using T-SQL Date and Time Functions	53
	How It Works	54
	Joins	55
	Inner Joins	56
	Outer Joins	61
	Other Joins	65
	Summary	65
CHAPTER 5	Manipulating Database Data	67
	Retrieving Data	67
	Try It Out: Running a Simple Query	
	How It Works	
	Using the WHERE Clause	
	Sorting Data	
	-	

	Using SELECT INTO Statements	76
	Try It Out: Creating a New Table	76
	How It Works	77
	Try It Out: Using SELECT INTO to Copy Table Structure	78
	How It Works	79
	Inserting Data	81
	Try It Out: Inserting a New Row	81
	How It Works	82
	Updating Data	83
	Try It Out: Updating a Row	84
	How It Works	84
	Deleting Data	86
	Summary	87
	Heim Oleved Bureadows	
CHAPTER 6	Using Stored Procedures	89
	Creating Stored Procedures	89
	Try It Out: Working with a Stored Procedure in SQL Server	89
	How It Works	91
	Try It Out: Creating a Stored Procedure with an	
	Input Parameter	92
	How It Works	93
	Try It Out: Creating a Stored Procedure with an	
	Output Parameter	94
	How It Works	95
	Modifying Stored Procedures	96
	Try It Out: Modifying the Stored Procedure	96
	How It Works	98
	Displaying Definitions of Stored Procedures	98
	Try It Out: Viewing the Definition of Your Stored Procedure \dots	98
	How It Works	99
	Renaming Stored Procedures	99
	Try It Out: Renaming a Stored Procedure	99
	How It Works	100

	Working with Stored Procedures in VB .NET100
	Try It Out: Executing a Stored Procedure with
	No Input Parameters100
	How It Works102
	Try It Out: Executing a Stored Procedure with Parameters 103
	How It Works105
	Deleting Stored Procedures106
	Try It Out: Deleting a Stored Procedure
	How It Works
	Summary107
CHAPTER 7	Using XML
	Defining XML
	Why XML?110
	Benefits of Storing Data As XML110
	Understanding XML Documents
	Understanding the XML Declaration
	Converting Relational Data to XML113
	Using FOR XML RAW
	Using FOR XML AUTO
	Using the xml Data Type119
	Try It Out: Creating a Table to Store XML119
	How It Works
	Try It Out: Storing and Retrieving XML Documents
	How It Works
	Summary
CHAPTER 8	Understanding Transactions 123
	What Is a Transaction?123
	When to Use Transactions
	Understanding ACID Properties124
	Transaction Design
	Transaction State126
	Specifying Transaction Boundaries126

	T-SQL Statements Allowed in a Transaction	127
	Local Transactions in SQL Server 2005	127
	Distributed Transactions in SQL Server 2005	128
	Guidelines to Code Efficient Transactions	129
	How to Code Transactions	130
	Coding Transactions in T-SQL	130
	Coding Transactions in ADO.NET	138
	Summary	141
CHAPTER 9	Getting to Know ADO.NET	143
	Understanding ADO.NET	143
	The Motivation Behind ADO.NET	144
	Moving from ADO to ADO.NET	
	ADO.NET Isn't a New Version of ADO	145
	ADO.NET and the .NET Base Class Library	146
	Understanding ADO.NET Architecture	147
	Working with the SQL Server Data Provider	149
	Try It Out: Creating a Simple Console Application Using the	
	SQL Server Data Provider	150
	How It Works	152
	Working with the OLE DB Data Provider	154
	Try It Out: Creating a Simple Console Application Using the	
	OLE DB Data Provider	155
	How It Works	
	Working with the ODBC Data Provider	158
	Creating an ODBC Data Source	159
	Try It Out: Creating a Simple Console Application Using the	
	ODBC Data Provider	165
	How It Works	166
	Data Providers As APIs	167
	Summary	168

CHAPTER 10	Making Connections	169
	Introducing the Data Provider Connection Classes	169
	Connecting to SQL Server Express with SqlConnection	170
	Try It Out: Using SqlConnection	170
	How It Works	172
	Debugging Connections to SQL Server	174
	Security and Passwords in SqlConnection	175
	How to Use SQL Server Security	175
	Connection String Parameters for SqlConnection	176
	Connection Pooling	177
	Improving Your Use of Connection Objects	177
	Using the Connection String in the Connection Constructor	177
	Displaying Connection Information	177
	Connecting to SQL Server Express with OleDbConnection	181
	Try It Out: Connecting to SQL Server Express with the	
	OLE DB Data Provider	182
	How It Works	183
	Summary	184
CHAPTER 11	Executing Commands	185
	Creating a Command	185
	Try It Out: Creating a Command with a Constructor	185
	How It Works	187
	Associating a Command with a Connection	187
	Assigning Text to a Command	188
	Executing Commands	190
	Try It Out: Using the ExecuteScalar Method	190
	How It Works	192
	Executing Commands with Multiple Results	193
	Try It Out: Using the ExecuteReader Method	193
	How It Works	194
	Executing Statements	195
	Try It Out: Using the ExecuteNonQuery Method	195
	How It Works	197

	Command Parameters	198
	Try It Out: Using Command Parameters	199
	How It Works	202
	Summary	202
CHAPTER 12	Using Data Readers	203
	Understanding Data Readers in General	203
	Try It Out: Looping Through a Result Set	204
	How It Works	205
	Using Ordinal Indexers	206
	Using Column Name Indexers	209
	Using Typed Accessor Methods	209
	Getting Data About Data	214
	Try It Out: Getting Information About a Result Set with a	
	Data Reader	215
	How It Works	217
	Getting Data About Tables	218
	Try It Out: Getting Schema Information	218
	How It Works	220
	Using Multiple Result Sets with a Data Reader	221
	Try It Out: Handling Multiple Result Sets	221
	How It Works	223
	Summary	224
CHAPTER 13	Using Datasets and Data Adapters	225
	Understanding the Object Model	226
	Datasets vs. Data Readers	226
	A Brief Introduction to Datasets	226
	A Brief Introduction to Data Adapters	227
	A Brief Introduction to Data Tables, Data Columns,	
	and Data Rows	228

	Working with Datasets and Data Adapters
	Try It Out: Populating a Dataset with a Data Adapter
	How It Works
	Filtering and Sorting in a Dataset
	Comparing FilterSort to PopDataSet237
	Using Data Views238
	Modifying Data in a Dataset241
	Propagating Changes to a Data Source244
	UpdateCommand Property
	InsertCommand Property
	DeleteCommand Property252
	Command Builders
	Concurrency
	Using Datasets and XML
	Try It Out: Extracting a Dataset to an XML File
	How It Works
	Using Data Tables Without Datasets
	Try It Out: Populating a Data Table with a Data Adapter262
	How It Works
	Understanding Typed and Untyped Datasets
	Summary
CHAPTER 14	Building Windows Forms Applications
	Understanding Windows Forms
	User Interface Design Principles
	Best Practices for User Interface Design
	Simplicity
	Position of Controls
	Consistency
	Aesthetics
	Color
	Fonts
	Images and Icons270

	Working with Windows Forms	270
	Understanding the Design and Code Views	273
	Sorting Properties in the Properties Window	274
	Categorized View	274
	Alphabetical View	275
	Setting Properties of Solutions, Projects, and Windows Forms	276
	Working with Controls	277
	Try It Out: Working with the TextBox and Button Controls	277
	How It Works	280
	Setting Dock and Anchor Properties	280
	Dock Property	281
	Anchor Property	281
	Try It Out: Working with the Dock and Anchor Properties	282
	How It Works	285
	Adding a New Form to the Project	285
	Try It Out: Adding a New Form to the Windows Project	285
	Try It Out: Setting the Startup Form	286
	Implementing an MDI Form	288
	Try It Out: Creating an MDI Parent Form with a Menu Bar	288
	Try It Out: Creating an MDI Child Form and Running an	
	MDI Application	289
	How It Works	291
	Summary	292
CHAPTER 15	Building ASP.NET Applications	293
	Understanding Web Functionality	293
	The Web Server	294
	The Web Browser and HTTP	294
	Introduction to ASP.NET and Web Pages	294
	Understanding the Visual Studio 2008 Web Site Types	295
	File System Web Site	295
	FTP Web Site	296
	HTTP Web Site	297

	Layout of an ASP.NET Web Site
	Web Pages
	Application Folders
	The web.config File
	Try It Out: Working with a Web Form
	Try It Out: Working with Split View
	Using Master Pages
	Try It Out: Working with a Master Page
	Summary311
CHAPTER 16	Handling Exceptions
	Handling ADO.NET Exceptions
	Try It Out: Handling an ADO.NET Exception (Part 1)313
	How It Works
	Try It Out: Handling an ADO.NET Exception (Part 2)
	How It Works
	Handling Database Exceptions
	Try It Out: Handling a Database Exception (Part 1):
	RAISERROR323
	How It Works
	Try It Out: Handling a Database Exception (Part 2):
	Stored Procedure Error
	How It Works
	Try It Out: Handling a Database Exception (Part 3):
	Errors Collection
	How It Works
	Summary 330

CHAPTER 17	Working with Events	331
	Understanding Events	331
	Properties of Events	332
	Design of Events	332
	Common Events Raised by Controls	333
	Event Generator and Consumer	333
	Try It Out: Creating an Event Handler	334
	How It Works	335
	Try It Out: Working with Mouse Movement Events	335
	How It Works	338
	Try It Out: Working with the Keyboard's KeyDown and	220
	KeyUp Events	
	Try It Out: Working with the Keyboard's KeyPress Event	
	How It Works	
	Summary	
	outilitially	
CHAPTER 18	Working with Text and Binary Data	
CHAPTER 18		343
CHAPTER 18	Working with Text and Binary Data	343
CHAPTER 18	Working with Text and Binary Data Understanding SQL Server Text and Binary Data Types	343
CHAPTER 18	Working with Text and Binary Data. Understanding SQL Server Text and Binary Data Types. Storing Images in a Database.	343 343 344
CHAPTER 18	Working with Text and Binary Data. Understanding SQL Server Text and Binary Data Types. Storing Images in a Database. Try It Out: Loading Image Binary Data from Files	343 343 344 345 349
CHAPTER 18	Working with Text and Binary Data Understanding SQL Server Text and Binary Data Types. Storing Images in a Database. Try It Out: Loading Image Binary Data from Files How It Works	343 343 344 345 349
CHAPTER 18	Working with Text and Binary Data Understanding SQL Server Text and Binary Data Types. Storing Images in a Database Try It Out: Loading Image Binary Data from Files How It Works Rerunning the Program.	343 343 344 345 351
CHAPTER 18	Working with Text and Binary Data Understanding SQL Server Text and Binary Data Types. Storing Images in a Database. Try It Out: Loading Image Binary Data from Files How It Works Rerunning the Program. Retrieving Images from a Database.	
CHAPTER 18	Working with Text and Binary Data Understanding SQL Server Text and Binary Data Types. Storing Images in a Database Try It Out: Loading Image Binary Data from Files How It Works Rerunning the Program. Retrieving Images from a Database Try It Out: Displaying Stored Images	343 344 345 351 351 354
CHAPTER 18	Working with Text and Binary Data Understanding SQL Server Text and Binary Data Types. Storing Images in a Database. Try It Out: Loading Image Binary Data from Files How It Works Rerunning the Program. Retrieving Images from a Database. Try It Out: Displaying Stored Images How It Works	343 344 345 351 351 351 354 355
CHAPTER 18	Working with Text and Binary Data Understanding SQL Server Text and Binary Data Types. Storing Images in a Database. Try It Out: Loading Image Binary Data from Files How It Works Rerunning the Program. Retrieving Images from a Database. Try It Out: Displaying Stored Images How It Works Working with Text Data	343 344 345 351 351 351 354 355
CHAPTER 18	Working with Text and Binary Data Understanding SQL Server Text and Binary Data Types. Storing Images in a Database Try It Out: Loading Image Binary Data from Files How It Works Rerunning the Program. Retrieving Images from a Database Try It Out: Displaying Stored Images How It Works Working with Text Data Try It Out: Loading Text Data from a File	

CHAPTER 19	Using LINQ	365
	Introduction to LINQ	365
	Architecture of LINQ	367
	LINQ Project Structure	368
	Using LINQ to Objects	369
	Try It Out: Coding a Simple LINQ to Objects Query	370
	How It Works	371
	Using LINQ to SQL	372
	Try It Out: Coding a Simple LINQ to SQL Query	372
	How It Works	374
	Try It Out: Using the where Clause	375
	How It Works	376
	Using LINQ to XML	376
	Try It Out: Coding a Simple LINQ to XML Query	376
	How It Works	378
	Summary	378
CHAPTER 20	Using ADO.NET 3.5	379
	Understanding ADO.NET 3.5 Entity Framework	379
	Understanding the Entity Data Model	380
	Working with the Entity Data Model	380
	Try It Out: Creating an Entity Data Model	
	How It Works	389
	Try It Out: Schema Abstraction Using an Entity Data Model	390
	Summary	
INDEX		395

About the Authors



■ VIDYA VRAT AGARWAL, is a Microsoft .NET Purist and an MCT, MCPD, MCTS, MCSD.NET, MCAD.NET, and MCSD. He works with Lionbridge Technologies and his business card reads *Subject Matter Expert (SME)*. He is also a lifetime member of the Computer Society of India (CSI). He started working on Microsoft .NET with its beta release. Vidya has been involved in software development, evangelism, consultation, corporate training, and T3 programs on Microsoft .NET for various

employers and corporate clients. You can read his articles at www.ProgrammersHeaven.com, and he also reviews the .NET Preparation Kits available at www.ucertify.com. He has contributed as technical reviewer to many books published by Apress; he is also the author of another Apress book titled *Beginning C# 2008 Databases: From Novice to Professional*.

Vidya lives with his beloved wife Rupali and lovely daughter Vamika ("Pearly"). He believes that nothing will turn into a reality without them. He is the follower of the concept "No pain, no gain," and believes that his wife is his greatest strength. He is a bibliophile; when he is not working on technical stuff, he likes to spend time with his family and also likes reading spiritual and occult science books. Vidya blogs at http://dotnetpassion.blogspot.com.

JAMES HUDDLESTON has worked with computers since 1974, specializing in database design and development since 1980. He has a bachelor's degree in Latin and Greek from the University of Pennsylvania and a juris doctor degree from the University of Pittsburgh. A technical reviewer of dozens of computer books, including *Beginning C# Objects: From Concepts to Code* (Apress, 2004), he finds databases an endlessly fascinating area of work and almost as intellectually rewarding as his hobby: translating Homer's *Iliad* and *Odyssey* from the original Greek.

About the Technical Reviewer

FABIO CLAUDIO FERRACCHIATI is a senior consultant and a senior analyst/developer using Microsoft technologies. He works for Brain Force (www.brainforce.com) in its Italian branch (www.brainforce.it). He is a Microsoft Certified Solution Developer for .NET, a Microsoft Certified Application Developer for .NET, and a Microsoft Certified Professional, as well as a prolific author and technical reviewer. Over the past ten years he's written articles for Italian and international magazines and coauthored more than ten books on a variety of computer topics. You can read his LINQ blog at www.ferracchiati.com.

Acknowledgments

hough my name appears on the cover page of the book, I am not alone in achieving this. There are many people who have been directly, or indirectly, associated with me throughout my journey of writing this book. Let me have this opportunity to thank them all one by one.

Thanks to the Apress team I have worked with directly. To Sofia Marchant, the project manager: thanks, Sofia, for all your patience and support throughout this book. Thanks to Dominic Shakeshaft, my editor, who has reviewed my work. Thanks to Liz Welch, the copy editor; she has been so helpful in finding the errors that could have easily been missed by anyone but that would have made a huge impact if not corrected. Thanks to Laura Cheu from the production team for giving me an opportunity to look at the final chapters that were the result of her hard work. I would also like to thank all those people from Apress with whom I have not interacted but who are associated with this book, such as graphic artists, printers, and so forth. Thank you, guys.

Thanks to my technical reviewer, Fabio Claudio Ferracchiati, for his thorough review of the script and for testing the code. He has been so objective in finding any issues and helping me to come up with something even better.

Thanks to my parents and my parent in-law for always wishing the best for me and having unbreakable faith in me.

Finally, my heartfelt thanks to those two who have been with me throughout this one-year-long journey when I was only focused on book authoring; they are the integral part of my life: my wife Rupali and my two-and-a-half-year-old daughter Vamika (Pearly)—many thanks to you both for all the support you have shown by staying awake those late nights to keep me company so I wouldn't feel sleepy and for giving me a peaceful environment in which to concentrate—and of course, for those many cups of tea with sweet smiles as well. Thanks for sacrificing all those weekends until I reached the end of the book and for always motivating and supporting me to complete the chapters and meet the deadlines. My sweet little daughter, I remember all those moments when you were so desperate to play with me but I could not look up from my laptop screen, and you have also been such a darling doll, like your mom, to leave with a smile. Thanks for everything, especially for being in my life. I would not have achieved anything without you; thanks for being my inspiration and strength. I owe a lot of time, much more love to you, my angels, and I love you.

Also, big, big thanks to the great God and my late grandparents for showering their blessings on me. I promise to be the best kid of yours.

Introduction

As most of the real-world applications interact with the data stored in relational data-bases, so every VB programmer needs to know how to access data. This book specifically covers how to interact with SQL Server 2005 databases using VB 2008. This book also covers LINQ and ADO.NET 3.5, the most exciting features of .NET Framework 3.5. The chapters that focus on the database concepts will help you understand the database concepts as if you'd learned them from a pure database concepts book. I have also covered many new features of T-SQL that SQL Server 2005 has brought in.

The book has been written in such a way that it will be easily understood by beginners and professionals alike. If you want to learn Visual Studio 2008 to build database applications, then this is the right book for you. It will not only walk you through all the concepts that an application developer may have to use, but will also explain what each piece of code you will write does.

The chapters in this book are organized in such a manner that you will build a strong foundation before moving on to the next higher-level chapter.

Who This Book Is For

If you are an application developer who likes to interact with databases using C#, then this book is for you—it covers programming SQL Server 2005 using VB 2008.

This book does not require or even assume that you have a sound knowledge of VB 2005, SQL Server 2000, and database concepts. I have written this book in such a way that, even if you don't have any of that background, you can pick up this book and learn. I have covered all the fundamentals that other books assume a reader must have before moving on with the chapters. This book is a must for any application developer who wants to interact with databases using VB 2008 and development tools.

What This Book Covers

This book covers Visual Studio 2008, SQL Server 2005, VB 2008, LINQ, and ADO .NET 3.5. All these tools and technologies are explained using various concepts and code examples. I have also tried to map the type of applications used in this book with the demand of real-life applications, so that you can utilize the concepts that you will learn throughout this book in your professional life.

How This Book Is Organized

This book is organized in such a way that the reader will find all the necessary concepts in the previous chapter before moving on to the next chapter. I have also taken care to avoid including references to the chapters that I will cover in the latter part of the book, so readers can concentrate on that chapter completely rather than switching their focus among the chapters to cover the concepts.

The concepts explained in each chapter have been explained with code examples under the section "Try It Out," followed by another section, "How It Works," which will help you understand each code statement and its purpose.

How to Download the Sample Code

All the source code is available in the Source Code/Download section at www.apress.com.

Contacting the Author

You can reach Vidya Vrat Agarwal at Vidya_mct@yahoo.com or visit his blog at http://dotnetpassion.blogspot.com.