SQL Server 2000 开发宝库影印丛书

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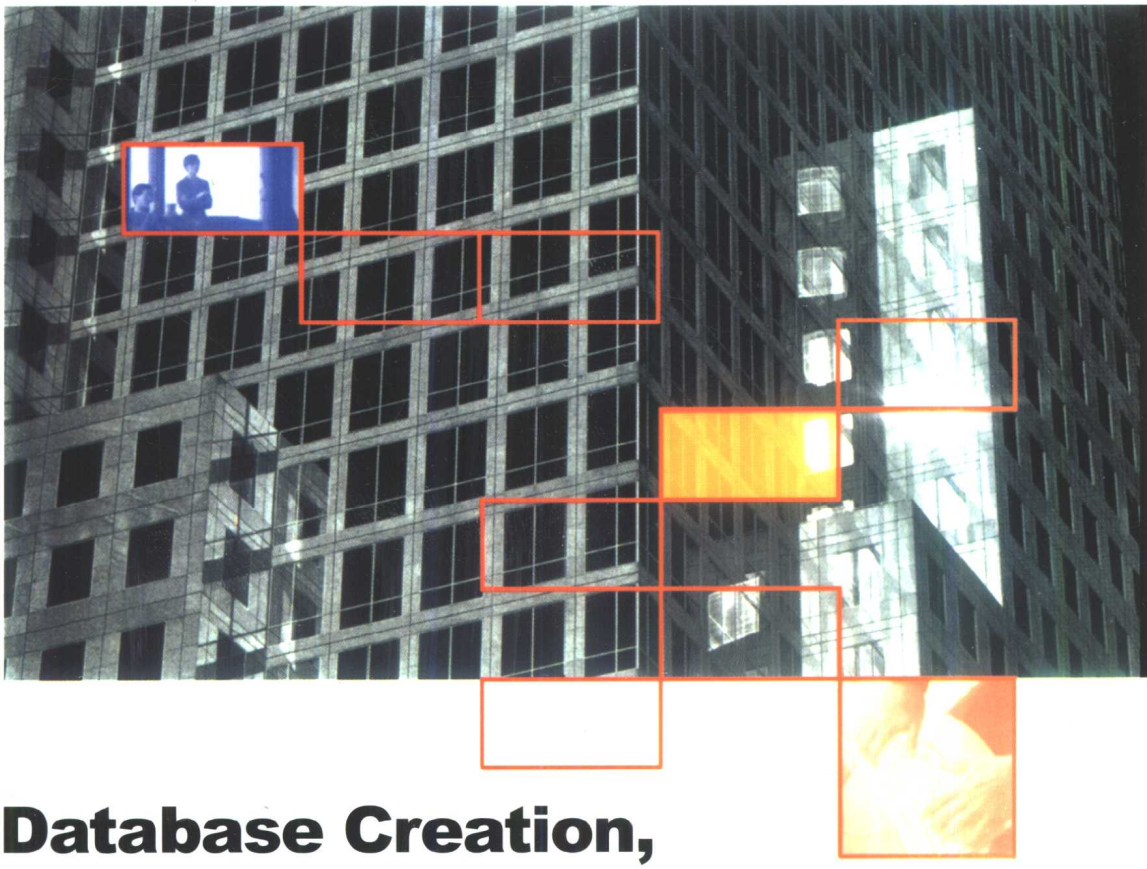
数据库与数据仓库实用操作大全（影印版）



Database Creation, Warehousing, and Optimization

David Iseminger
Series Editor

北京大学出版社
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[美] David Iseminger 著

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内 容 简 介

本书集中讲述了数据库的创建和维护、数据仓库的创建和 SQL Server 2000 的优化。并对 SQL Server 2000 的数据库、表格、索引、视图、固定程序、触发器、用户自定义函数和全文本索引等都有全面的阐述。同时也详述了数据仓库的组成、创建和维护，以及如何通过有效的数据库和应用程序设计、查询调试和优化工具、实用程序和性能良好的服务器等来提高数据库的性能。

本书由经验丰富的微软专家编写，内容全面，言简意赅，是从事数据库与数据仓库管理者的理想参考书。

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出 版 前 言

如果用一个成语来概括国内计算机图书市场的现状，当谓之“汗牛充栋”。然而，如果您是一位从事计算机应用系统开发或管理的中、高级专业人士，很可能发现这貌似种类齐全的计算机图书中，为您量身定做的并不多见。

依据多年从事计算机图书工作所积累的经验，以及与 IT 领域广泛而深入的接触所获取的信息，我们认识到，具有相当的专业深度和技术前沿性的图书，是计算机专业人员的迫切需要，当然，也是我们从事计算机图书工作、服务专业领域的一大着眼点。

基于这一点，2000 年元月，我们与微软出版社(Microsoft Press)达成合作协议，成立微软图书影印中心，独家代理微软出版社图书影印版在中国大陆的出版、发行，为 IT 业界提供及时的专业技术服务。选题和策划上的匠心独运，使得我们的影印书成为计算机图书中的标新立异者。这里，有四大特色值得读者朋友予以关注：

首先，这是微软出版社第一次授权在中国大陆影印、发行它的版权书。在选题上，可以说独辟蹊径。在内容上，立足技术广度和深度，系统推介微软产品。所有这些，都是目前国内一般计算机图书所无法比拟的。

其次，我们的理念是为国内计算机专业人员学习前沿性的微软技术提供服务。为此，我们不但与微软公司紧密协作与沟通，及时掌握微软最新技术动向，而且组织了精干的工作人员，倾力于微软影印书的出版和发行。

再者，微软影印书主要面向中、高级专业人员，印量有限。这类书的读者对象有较强的针对性，一般来说，包括 IT 决策人员，中、高级开发人员，以及中、高级系统管理人员。因而，我们将每套书的印数控制在 1000~2000 册之间。

最后，微软图书影印版几乎与原版书保持同步发行，最大限度地满足了国内读者跟踪微软最新技术的需求。软件升级越来越快，新软件令人目不暇接。作为技术载体之一的图书，只有迅速作出反应，把新软件介绍给读者，才能赢得他们的青睐。总之，兵贵神速，这是我们的目标。

正应验了前人的预言，21 世纪是一个信息时代。软件作为信息系统的神经，在我们生活的这个时代里发挥着举足轻重的作用，而微软公司和它推出的各种软件，更是令世人为之瞩目。我们将立足图书，继续并扩大与微软公司的合作，在中国信息产业的发展道路上留下自己的足迹。

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windows programming reference series

Introduction and Overview

Part 1 of this volume explains the structure of the *Microsoft SQL Server 2000 Reference Library*, briefly introduces the *Windows Programming Reference Series* (WPRS), and provides information about failover clustering, an important part of highly available SQL Server deployments.

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CHAPTER 1

Welcome to the SQL Server 2000 Reference Library

Imagine fitting an entire third-grade soccer team into a Volkswagen Beetle—that's how I felt while putting together the *SQL Server 2000 Reference Library*. All told, there was about three times as much SQL Server 2000 Books Online reference material as there was room in the *SQL Server 2000 Reference Library*, so I had to figure out the most widely used, appropriate, and pertinent parts of Books Online, and have included those parts in the library you now have in your possession.

Despite those woes, I believe you'll find the *SQL Server 2000 Reference Library* full of must-have information about SQL Server 2000. From architecture and XML, to Analysis Services (formerly OLAP) and T-SQL, this reference library contains the essential reference information you need to program, administer, deploy, or optimize your SQL Server 2000 solution... without monitor-induced eyestrain.

The SQL Server 2000 Reference Library is part of the Windows Programming Reference Series (WPRS), a series of libraries dedicated to providing printed development and IT material in a timely, intelligently organized, and well-conceived manner. You can find out more about WPRS and other available reference libraries (including the *COM+ Developer's Reference Library* and the *Active Directory Developer's Reference Library*) at www.iseminger.com—a website dedicated to providing additional information about the series, and other books also by yours truly.

How the SQL Server 2000 Reference Library is Structured

The *SQL Server 2000 Reference Library* consists of six volumes, each of which focuses on one or more specific areas of SQL Server 2000. These guides and programming reference volumes have been divided into the following:

Volume 1: SQL Server 2000 Architecture and XML/Internet Support

Volume 2: Database Creation, Warehousing, and Optimization

Volume 3: Analysis Services

Volume 4: Replication and English Query

Volume 5: T-SQL Language Reference

Volume 6: T-SQL Stored Procedures and Tables Reference

Dividing the *SQL Server 2000 Reference Library* into these categories enables you, the reader, to quickly identify the volume you need, based on your task, and facilitates your maintenance of focus for that task. This approach allows you to keep one reference book open and handy, or tucked under your arm while running between server racks.

In addition to the overall library structure, each volume in the *SQL Server 2000 Reference Library* is divided into parts that concentrate on a given subject. In order to provide a quick overview of a part's contents, each begins with a Part Introduction page that outlines what you'll find therein.

Finding Related Topics and Working With the Topic Index

Throughout this library, you're going to see references to related topics; some of them within the text of a given paragraph, others placed in a special section called **Related Topics**. Since the entire body of SQL Server 2000 Books Online constitutes more topics than what you'll find in these volumes, you may occasionally come across a referenced topic that doesn't correspond to a section in this library. Don't worry; you can get to that information through the SQL Server 2000 Books Online. Most of the references *will* pertain to items in these volumes, but there might be some reference you're interested that will lead you online.

To make locating topics as easy as possible, and to enable you to quickly identify which topics are found in this library (versus which are only found in Books Online), Volumes 1 through 4 include a special index called **Topics in the SQL Server 2000 Reference Library**. There's some good information about the topic index (as I'll refer to it from now on) that will help you understand how to get the most use out of it, and out of the *SQL Server 2000 Reference Library*.

For starters, the topic index contains *only topics found in the SQL Server 2000 Reference Library*. So, say you're reading through a chapter in this library, and you come across text that refers you to another topic, such as the following:

Building and Processing Cubes, Updating Cubes and Dimensions

Or something like the following:

> ...For more information about which editions support which features, see Features Supported by the Editions of SQL Server 2000.

You can then look through this alphabetical listing of topics included in this library for the referenced topic, and when you find it, you'll be directed to the Volume and Chapter where that topic can be found, as shown here:

Building and Processing Cubes Volume 3, Chapter 5
Building and Processing Cubes Volume 3, Chapter 8
Features Supported by the Editions of SQL Server 2000 Volume 1, Chapter 11

If two topics with the same title exist (as shown here), each will be listed separately. As previously mentioned, most references refer to topics also found in this library, but for those that don't, you can go to Books Online to get more information.

There are important exceptions to topic references and the topic index: *T-SQL statements and other programming elements are **not** included in the topic index.* Each volume that contains programming elements (such as T-SQL stored procedures, or English Query statements) has its own index of programming elements. Rather than cluttering this index up with programming elements (or vice versa), I've provided separate indexes to help you find the information you need faster.

Since Volumes 5 and 6 are almost entirely dedicated to statement definitions, including the topic index in those volumes didn't seem like a good use of (precious) pages.

The Idea Behind SQL Server 2000 Reference Library

The *SQL Server 2000 Reference Library*, like all libraries in the Windows Programming Reference Series, is designed to deliver the most pertinent information in the most accessible way possible. The *SQL Server 2000 Reference Library* is also designed to integrate seamlessly with SQL Server 2000 Books Online (and with MSDN Online) by providing a look-and-feel that is consistent with the electronic means of disseminating SQL Server 2000 reference information. In other words, the way that a given function reference appears on the pages of this book has been designed specifically to emulate the way that Books Online presents its reference pages.

The reason for maintaining such integration is simple: make it easy for you—the administrator or developer of SQL Server 2000 solutions—to use the tools and get the ongoing information you need to do your job. By providing a "common interface" among reference resources, your familiarity with the *SQL Server 2000 Reference Library* reference material can be immediately applied to Books Online, and vice-versa. In a word, it means *consistency*.

You'll find this philosophy of consistency and simplicity applied throughout Windows Programming Reference Series publications. I've designed the series to go hand-in-hand with online resources. Such consistency lets you leverage your familiarity with electronic reference material, then apply that familiarity to enable you to get away from your computer if you'd like, take a book with you, and—in the absence of keyboards and e-mail and upright chairs—get your reading and research done. Of course, each of the *SQL Server 2000 Reference Library* volumes fits nicely right next to your mouse pad as well, even when opened to a particular reference page.

With any job, the simpler and more consistent your tools are, the more time you can spend doing work rather than figuring out how to use your tools. The structure and design of the *SQL Server 2000 Reference Library* provides you with a comprehensive, pre-sharpened toolset to quickly program, administer, or optimize SQL Server 2000 deployments.

CHAPTER 2

Failover Clustering

In Microsoft SQL Server 2000 Enterprise Edition, SQL Server 2000 failover clustering provides high availability support. For example, during an operating system failure or a planned upgrade, you can configure one failover cluster to fail over to any other node in the failover cluster configuration. In this way, you minimize system downtime, thus providing high server availability.

To install, configure, and maintain a failover cluster, use SQL Server Setup. For information about upgrading to a SQL Server 2000 failover cluster, see Upgrading to a SQL Server 2000 Failover Cluster.

Use failover clustering to:

- Install SQL Server on multiple nodes in a failover cluster. You are limited only by the number of nodes supported by the operating system.

  Before installing failover clustering, you must install Microsoft Windows NT 4.0, Enterprise Edition; Microsoft Windows 2000 Advanced Server or Windows 2000 Datacenter Server; and the Microsoft Cluster Service (MSCS).

  There are specific installation steps that must be followed to use failover clustering. For more information, see Installing Failover Clustering and Handling a Failover Cluster Installation.

- Specify multiple IP addresses for each virtual server.

  SQL Server 2000 allows you to use all available network IP subnets, thereby providing alternate ways to connect if one subnet fails and increasing network scalability. For example, with a single network adaptor, a network failure can disrupt communications. However, with multiple network cards in the server, each network can be on a different IP subnet. If one subnet fails, at least one connection can continue to function. If a router fails, MSCS continues to function, and all IP addresses still work. However, if the network card on the local computer fails, communication still may be disrupted. For more information, see Creating a Failover Cluster.

- Administer a failover cluster from any node in the clustered SQL Server configuration. To perform setup tasks, you must be working from the node in control of the cluster disk resource. For more information, see Creating a Failover Cluster.

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