



Part of the five-volume
Active Directory™ Developer's Reference Library

活动目录编程和开发影印丛书

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揭示微软活动目录服务技术内幕
深入编程与开发
IT企业 and 专业人员必备

The essential reference set for anyone who develops Active Directory applications in C, C++, Visual C++®, or Visual Basic®

David Iseminger
Series Editor
www.iseminger.com

Active Directory

Active Directory™ Service Interfaces Programmer's Guide

[美] Microsoft 公司 著

活动目录服务接口程序员指南

(影印版)

北京大学出版社

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活动目录编程和开发影印丛书

Active Directory Service Interfaces
programmer's Guide

活动目录服务接口 程序员指南

Microsoft 公司

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内 容 简 介

本书是 ACTIVE DIRECTORY DEVELOPER'S REFERENCE LIBRARY (活动目录编程和开发影印丛书) 中的一本, 全面讲述如何用活动目录服务接口 (ADSI) 来启用产品和应用程序中的目录, 并自动完成目录管理任务。ADSI 提供了一套目录服务接口, 来对含有多个网络和目录的环境中的网络资源进行管理。网络管理员可以使用 ADSI 和适于自动编程的语言 (如 Visual Basic 和 Java) 来自动完成常规任务, 如添加用户和组、管理打印机、为网络资源设置权限等。开发人员可以用 ADSI 来启用产品和应用程序中的目录。如果读者具有扎实的 COM 编程基础, 将对阅读本书有所帮助。

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前 言

活动目录 (Active Directory) 是 Windows 2000 网络的基石, 有了它, 很多在企业目录服务出现以前无法实现的解决方案都变成了现实。《活动目录编程和开发影印丛书》就是针对这种全新的开放技术而推出的。

本丛书提供了大量的 Visual Basic、Visual C++ 扩展代码的范例, 可以供网络编程人员参考。丛书中的程序员参考部分主要讲述完全的 Active Directory API 和 Active Directory Service Interface (ADSI) 文档支持, 而这两者提供了一套 COM 接口, 可以用来访问分布式计算环境中由不同的网络提供商提供的目录服务。系统管理员和开发人员可以使用 ADSI 来管理活动目录的资源, 而不必考虑提供资源的网络环境。ADSI 简化了日常的管理工作, 比如添加新用户、管理打印机、查找企业内部的资源等。本丛书构思精巧, 将活动目录和 ADSI 的参考材料有效地组织在一起。此外, 它还包括来自 Microsoft Platform SDK 的重要资料。每一本书都有详尽的索引, 让读者能够轻松地查找所需的内容, 还可以查找其他内容, 例如 Microsoft 的其他书籍及其电子文档。

本丛书的主编 David Iseminger 是 Microsoft 的独立顾问, 作为网络和路由器性能分析师、通信专家和性能工具开发者, 自 Windows NT 3.5 以来, 他就一直从事 Windows NT 和 Windows 2000 的研究与开发工作。最近, 他作为程序员, 正在与开发人员文档组 (Developer Documentation Group) 一道, 创建和维护 MSDN 建立的和新兴的网络技术, 包括服务质量 (Quality of Service)。作为计算机图书作家, David 的著作颇丰, 包括他最新创作、Microsoft 出版的《Active Directory Services for Microsoft Windows 2000 Technical Reference》。David 毕业于华盛顿大学, 现居住在华盛顿州的 Puget Sound 城。欲详细了解 David 的工作以及本丛书的其他作品, 请访问站点: www.iseminger.com。

本丛书由以下 5 本书组成:

《Active Directory Programmer's Guide》(《活动目录程序员指南》)

《Active Directory Reference》(《活动目录参考手册》)

《Active Directory Service Interfaces Programmer's Guide》(《活动目录服务接口程序员指南》)

《Active Directory Service Interfaces Reference》(《活动目录服务接口参考手册》)

《Active Directory Schema》(《活动目录架构》)

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CHAPTER 1

Using the Active Directory Library

A fundamental change in the way Microsoft Windows operates has occurred. With Microsoft Active Directory and Windows 2000, a comprehensive directory service has been developed that enables users, administrators, and application programmers to get more out of the operating system than ever before. My prediction? (I'm an author—I'm supposed to make such predictions.) The advent of Active Directory services in Windows 2000 is going to blur the lines between networks, and will result in a basic but extraordinary change in the way users and applications operate. Just as global e-mail was a basic but extraordinary change only a few years ago (try working without e-mail today), we will reflect on Active Directory in a few years and wonder how we (or our applications) functioned effectively without it.

As a Windows programmer—whether you're writing complex applications in C/C++ or using Microsoft Visual Basic to automate administrative tasks—you need to be familiar with Active Directory and its various programming features. That familiarity (and that multiple programming language coverage) is exactly what the *Active Directory Developer's Reference Library* is geared to provide.

The Active Directory Library is *the* comprehensive reference guide to Active Directory development. This library, like all libraries in the Windows Programming Reference Series (WPRS), is designed to deliver the most complete, authoritative, and accessible reference information available on a given subject of Windows programming—without sacrificing focus. Each book in the library is dedicated to a logical group of technologies or development concerns; I've taken this approach specifically to enable you to find the information you need quickly, efficiently, and intuitively.

In addition to its Active Directory development information, the Active Directory Library contains tips designed to make your programming life easier. For example, a thorough explanation and detailed tour of MSDN Online are included, as is a section that helps you get the most out of your MSDN subscription. Just in case you don't have an MSDN subscription or don't know why you should, I've provided information about that too, including the differences between the three levels of MSDN subscription, what each level offers, and why you'd want a subscription when MSDN Online is available over the Internet.

To ensure you don't get lost in all the information provided in the Active Directory Library, each volume's appendixes provide an all-encompassing programming directory to help you easily find the particular programming element you're looking for. This directory suite, which covers all the functions, structures, enumerations, and other programming elements found in Active Directory and Active Directory Service Interface (ADSI) development, gets you quickly to the volume and page you need, saving you hours of time and bucketsful of frustration.

How the Active Directory Library Is Structured

The Active Directory Library consists of five volumes, each of which focuses on a particular aspect of Active Directory programming. These guides and programming reference volumes have been divided into the following:

- Volume 1: Active Directory Programmer's Guide
- Volume 2: Active Directory Reference
- Volume 3: ADSI Programmer's Guide
- Volume 4: ADSI Reference
- Volume 5: Active Directory Schema

Dividing the Active Directory Library into these categories enables you, the reader, to quickly identify the Active Directory volume you need based on your task, and facilitates your maintenance of focus for that task. This approach enables you to keep one reference book open and handy, or tucked under your arm while researching that aspect of Windows programming on sandy beaches, without risking back problems (from toting around all 3,200+ pages of the Active Directory Library) and without having to shuffle among multiple, less-focused books.

Within the Active Directory Library—and, in fact, in all WPRS Libraries—each volume has a deliberate structure. This per-volume structure has been created to further focus the reference material in a developer-friendly manner, to maintain consistency within each volume and each Library throughout the series, and to enable you (the developer) to easily gather the information you need. To that end, each volume in the Active Directory Library contains the following parts:

- Part 1: Introduction and Overview
- Part 2: Guides, Examples, and Programmatic Reference
- Part 3: Indexes and Active Directory Glossary

Part 1 provides an introduction to the Active Directory Library and to the Windows Programming Reference Series (what you're reading now), and a handful of chapters designed to help you get the most out of Active Directory, MSDN, and MSDN Online. MSDN and WPRS Libraries are your tools in the development process; knowing how to use them to their fullest will enable you to be more efficient and effective (both of which are generally desirable traits). In certain volumes (where appropriate), I've also provided additional information that you'll need in your Active Directory development efforts and included such information as concluding chapters in Part 1. For example, this volume includes a chapter that introduces crucial concepts about Active Directory—concepts you need to know before you dive into Active Directory programming. Some of the other volumes in the Active Directory Library conclude their Part 1 with chapters that include information crucial to their volume's contents.

Part 2 contains the Active Directory programming guides or reference material particular to its volume. You'll notice that the programmatic reference volumes contain much more than simple collections of function and structure definitions. Because a comprehensive reference resource should include information about how to use a particular technology as well as its definitions of programming elements, the information in Part 2 combines complete programming element definitions as well as instructional and explanatory material for each programming area.

Part 3 is a collection of indexes. One of the biggest challenges of the IT professional is finding information in the sea of available resources, and Active Directory programming is certainly no exception. In order to help you get a handle on Active Directory programming references (and Microsoft technologies in general), Part 3 puts all such information into an understandable, manageable directory (in the form of indexes) that enables you to quickly find the information you need. To enhance your understanding of the content in each volume, I've also included a glossary of Active Directory terms in each volume. This enables you to refresh your knowledge of a given Active Directory term regardless of which volume you're using, without the need to refer to another book (if the glossary were in only one volume).

How the Active Directory Library Is Designed

The Active Directory 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 Active Directory Library is also designed to integrate seamlessly with MSDN and MSDN Online by providing a look and feel consistent with their electronic means of disseminating Microsoft 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 MSDN and MSDN Online present their function reference pages.

The reason for maintaining such integration is simple: to make it easy for you—the developer of Windows applications—to use the tools and get the ongoing information you need to create quality programs. By providing a “common interface” among reference resources, your familiarity with the Active Directory Library reference material can be immediately applied to MSDN or MSDN Online, and vice-versa. In a word, it means *consistency*.

You'll find this philosophy applied throughout Windows Programming Reference Series publications. I've designed the series to go hand-in-hand with MSDN and MSDN 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 programming reading and research done. Of course, each of the Active Directory 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 Active Directory Library provide you with a comprehensive, presharpened toolset to build compelling Windows applications.

CHAPTER 2

What's In This Volume?

This volume of the *Active Directory Developer's Reference Library* is the best place to start if you're beginning a development effort that will use ADSI. This volume gets you acquainted with ADSI and provides you with guidance, tutorials, and other information that can jump-start your ADSI development knowledge.

As the title of this volume implies, the chapters in Part 2 of this volume serve as a guide for developers planning to use ADSI in their development effort, and as such, should be your first step in the ADSI development process. If you've already read through the first part of Volume 1, then this approach is going to be familiar to you; Volume 3 is the guide to ADSI programming (just like Volume 1 is the guide to Active Directory programming), and Volume 4 in this library provides a complete treatment of ADSI reference material. This is a planned approach; there is a definite sequence to how the Active Directory Library is put together—start with the foundation (Volumes 1 and 2), build on what has been introduced in those volumes with ADSI information (Volumes 3 and 4), and then provide the end-all reference volume on the Active Directory repository itself, the Active Directory Schema (Volume 5). While you don't have to read these books serially or linearly (nor in one sitting!), I've structured them as logically as possible in terms of what comes first, what follows, and what will hopefully enable you to get the most out of them.

The final chapters in Part 2 of this volume add to the ADSI Programmer's Guide by addressing Group Policy programming. Group Policy is a great way to lower Total Cost of Ownership (TCO) because it can increase user productivity (by ensuring that the user's computing experience is consistent and stable) and can greatly reduce the administrative overhead associated with configuration and ongoing maintenance on the desktop. This volume includes both a guide to Group Policy programming and Group Policy programming reference, in an effort to ensure that the Active Directory Library completely covers the core features and capabilities of Active Directory services.

In addition to the ADSI Programmer's Guide and Group Policy, this volume contains information about how you can use Microsoft's development tools (not tools in the traditional sense, but tools that enable you to find the information you need to get your job done) such as MSDN, MSDN Online, and developer support resources. This helpful information is found in various chapters in Part 1, and those chapters are common to all Windows Programming Reference Series volumes (each volume in each library contains them). By including this information in each library and in each volume, several goals of the WPRS are achieved.