

# Design and Practice of Virtual Enterprise Website

# 虚拟企业网站的设计与实践

覃 征 王志敏 蔺 楠 鲍复民 编著  
Qin Zheng Wang Zhimin Lin Nan Bao Fumin



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## 内容提要

### Abstract

本书介绍了在电子商务环境下的虚拟企业网站的设计方法和实现过程,用大量的实例说明了各种构建电子商务网站的开发工具的使用方法和技巧。全书共分17章,分别介绍了电子商务基础、电子商务网站的设计方法、PHP脚本语言基础、Oracle数据库及Apache服务器技术、网站实现过程、虚拟企业电子商务应用的解决方案和集成技术等多方面的内容,使读者可以逐步掌握电子商务网站的设计方法和实现过程。另外,本书重点剖析了网络虚拟商店、电子产品目录、网上购物车、网上商务结算、电子订单、安全技术、检索查询、客户服务、网站信息统计、Web数据库的发布、多层企业计算架构等关键技术的原理和实现方式,可使读者的相关技术水平更上一层楼。

本书适合于对操作系统和数据库有一定了解的读者,对高层次的设计开发人员也具有重要的参考价值。

This book deals with the design methods and implementation procedure of Virtual Enterprise website under the environment of E-Commerce, and uses a large number of examples to illustrate a variety of usage and skills of E-Commerce website development tools. The whole book is divided into 17 chapters, and introduces the rudimental knowledge of E-Commerce, the design methods of E-Commerce website, the rudimental knowledge of PHP script, Oracle database and Apache server technology, the implementation procedure of website, the solution project of Virtual Enterprise E-Commerce application and integration technology and so on. It can guide the readers to grasp the design methods and implementation procedure of E-Commerce website gradually. In addition, this book emphasizes on the analysis of the theory and implementation methods of network Virtual Shop, E-Catalog, network Shopping Cart, the balance of network commerce, electronic order form, security technology, searching, client service, the statistics of website information, the distribution of Web database, multi-tier enterprise computing architectures and so on which will improve the readers' standard to a new level.

This book is fit for those who have knowledge about operation system and database. It can also provide important reference value to advanced developer.

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# 前 言

20 世纪 90 年代,世界信息化发展一日千里,信息化建设取得举世瞩目的成就。电子商务就是于 20 世纪 90 年代初,在欧美兴起的一种全新的商业交易模式,它实现了交易的无纸化、效率化、自动化,表现了网络最具魅力的地方。快速的交换信息,地理界限的模糊,这所有的一切也必将推动传统商业行为在网络时代的变革。展望 21 世纪,Internet 和 Intranet 等信息高速公路必将以更快的速度发展。随之诞生的虚拟企业就是指通过这些信息高速公路连接,将企业业务扩展到世界各地,却并不一定有实际形体的企业,或说企业的许多部分可以分布在世界的各个角落,由网络来动态、高效地把企业连成一个整体。当前,越来越多的国内外公司开始重视虚拟企业网站的建设,保持与潜在客户的商业联系,及时获取市场反馈,增强企业的网络沟通能力。

值得指出的是,电子商务是一项复杂的社会系统工程,因此发展电子商务需要的人才也是多方面的。目前大多数网站技术开发力量相对不足的原因,一是由于大部分公司都把主要目标放在内容的编辑、供应,而不是放在网站应用建设;二是国内外都极其缺乏有 Internet 开发经验的网络技术开发人才。本书的出版可以引导更多的企业参与电子商务的建设,强化营销意识,重视营销效果,加速普及电子商务基本教育。

与国内外同类书比较,本书以 Linux 为基石,因为使用 Linux 是我们所处的这个时代的特征来决定的。Linux 所处的时代,也正是整个计算机行业从 PC 机时代向互联网时代转型的过程。Linux 由于其与网络的自然联系和自由、开放、共享的天赋,将成为新经济的源动力。针对虚拟企业的规模,采用 Oracle 大型数据库可以适应当今社会海量数据的处理,并结合 Apache 服务器和 PHP 脚本使其在稳定性和性能上与其他操作系统相比有很强的竞争力。

本书共分 17 章。第 1 章为电子商务基础,简述了电子商务的概念模型、分类、关键技术以及电子商务环境下的虚拟企业等内容。第 2,3,4,5 章是本书的开发应用基础,在介绍了虚拟企业网站的设计方法之后,讲述了适合于开发虚拟企业网站的大型数据库 Oracle,Apache 服务器和 PHP 脚本语言等开发环境。第 6 章介绍了网络虚拟商店的建设,包括框架模式设计以及底层数据库访问技术。第 7,8,9,10,11 章介绍了虚拟企业运行过程中一些技术细节设计和实现,具体包括电子产品目录、网上购物车、网上商务结算、电子订单、支付系统的安全技术。第 12 章是网站的检索查询技术,主要介绍了 SQL 的应用。第 13 章是电子商务时代的客户服务,介绍了呼叫、邮件列表、意见反馈、订单跟踪等服务及其相关技术。第 14 章是网站信息统计技术,介绍了网站的各种运行状况以及信息的分析和统计。第 15 章是 Web 数据库的发布技术,讨论了企业信息资源库的信息发布问题,并讲述了企业数据库发布技术的实现。第 16 章是虚拟企业电子商务应用的解决方案,详细讲述了多层企业计算架构和 J2EE 在企业计算中的应用。第 17 章是电子商务企业应用的集成技术,包括 WWW 与数据库系统信息集成技术,虚拟企业中的信息集成技术,Web,Java 和 CORBA 技术的集成。

本书在编写过程中得到西安交通大学计算机科学与技术系、电子商务研究所和计算机软件研究所很多教授和青年教师的支持和指教,同时也得到西安交通大学出版社的大力支持,我们在此表示衷心的感谢。在编写本书的过程中,参考了大量的文献,作者对这些文献著作者表示真诚的谢意。

由于本书所涉及的内容广,学科多,限于作者的水平与时间,难免存在缺点和差错,敬请读者批评指正。

编者

2001年4月

# Preface

The development of the world information has been at a tremendous pace since 1990s and people have gained great achievements in the construction of information all over the world. E-Commerce is an advantageous business transaction mode which rose in Europe and U. S. in the early 1990s. E-Commerce realizes the special transactions which are paperless, efficient and automatic, and it represents the most charmed aspect of network: rapid exchange of information and mistiness of the geologic boundary, all of these are bound to impel the revolution of traditional business behavior in network era. In the 21st Century, the information highway such as Internet and Intranet will be developed more rapidly. Under these circumstances Virtual Enterprises appeared. With these Virtual Enterprises, business can be expanded all over the world, but they have no real unity in existence, or many parts of the enterprises can be distributed all over the world and be connected to form an integrity by the dynamic and efficient network. So far, more and more companies at home and abroad begin to emphasize the construction of Virtual Enterprise websites. By this means, they can keep in touch with the potential customers in business, gain market feedback timely, strengthen the communication ability through the network.

What is worth mentioning is that E-Commerce is a complex social system engineering, so the intellectuals with ability for E-Commerce development is in great need. At present, the reasons that most websites lack technology development strength are as follows: firstly, most companies emphasize on the supply of content compiling, rather than the application construction of websites; secondly, there aren't many development intellectuals who have rich experience in the network technology development about Internet at home and aboard. So the publication of this book can guide more enterprises to participate in the construction of E-Commerce, strengthen marketing skills, emphasize on the effect of marketing, and accelerate the basic education of E-Commerce.

Compared with the similar books published at home and aboard, this book is based on Linux, which has become the main characteristic in our era where Linux exists is a process that the whole computer industry transforms from PC era to Internet era. Linux will become original impetus of the new economy because of its natural relationship to the network and free open, shared inheritance. According to the scale of Virtual Enterprises, using Oracle database can adapt to the processing of today's magnanimous data and combination of Apache server and PHP script can make it very competitive on stability and performance against the other operating systems.

This book is divided into 17 chapters. The first chapter is the base of E-Commerce. It introduces the concept model, catalog, key technology and the Virtual Enterprise under the environment of E-Commerce. The second, third, fourth and fifth chapters are the base of development application in this book. After introducing the design methods of Virtual Enterprise, it deals with

development environment such as Oracle, Apache server and PHP script, which fits in with Virtual Enterprise websites. The sixth chapter introduces the construction of network Virtual shop, including the design of framework mode and low level database access technology. The seventh, eighth, ninth, tenth and eleventh chapters introduces some design and implementation of technology details in the running process of Virtual Enterprises, including E-Catalog, network Shopping Cart, the balance of network commerce, electronic order form, the security technology of payment system. The twelfth chapter deals with the searching technology of website, emphasizing on the application of SQL. The thirteenth chapter deals with the client service in the E-Commerce era, including the service of calling, E-mail list, option feedback, order tracing and so on. The fourteenth chapter deals with the statistic technology of website information, including various running conditions of websites, the analysis and statistics of information. The fifteenth chapter deals with the distribution technology of Web database, the distribution of enterprises' information resources and the implementation of enterprises' database distribution technology. The sixteenth chapter is about the solution project of Virtual Enterprise E-Commerce application, and it deals with multi-tier enterprise computing architecture and the application of J2EE in the enterprise computing in detail. The seventeenth chapter deals with the integration technology of E-Commerce Virtual Enterprise application, including the information integration technology of WWW and database system, the technology of information integration in the virtual enterprise and the integration of Web, Java and CORBA technology.

In writing this book, we are supported and guided by many professors and young teachers of Computer Science and Technology Department, E-Commerce Research Institute and Computer Software Research Institute of Xi'an Jiaotong University, meanwhile, we are supported strongly by Xi'an Jiaotong University Press, and we appreciate their help sincerely. When we write this book, we refer to many academic papers and books, so here we show great thanks to the authors of these academic papers and books sincerely. Without their help, this book won't be published within such a short time.

Because this book refers to many contents and subjects and the authors' ability and time are limited, there are bound to be some imperfections and even faults in the book. Please point out these mistakes directly so that they can be corrected.

Authors  
April, 2001

# 目 录

作者简介

前言

## 第 1 章 电子商务基础

|                             |      |
|-----------------------------|------|
| 1.1 电子商务的概念模型 .....         | (1)  |
| 1.2 电子商务的主要内容 .....         | (2)  |
| 1.2.1 电子商务的分类 .....         | (2)  |
| 1.2.2 Internet 上的电子商务 ..... | (3)  |
| 1.2.3 电子商务的主要应用领域 .....     | (4)  |
| 1.3 电子商务的关键技术 .....         | (4)  |
| 1.3.1 电子商务的安全与认证技术 .....    | (4)  |
| 1.3.2 电子商务的支付技术 .....       | (10) |
| 1.3.3 Web 浏览技术 .....        | (10) |
| 1.3.4 数据库技术 .....           | (11) |
| 1.4 电子商务环境下的虚拟企业 .....      | (11) |
| 1.5 企业建立网站的意义 .....         | (13) |
| 1.6 小结 .....                | (14) |

## 第 2 章 电子商务网站的设计方法

|                        |      |
|------------------------|------|
| 2.1 定位网站主题和名称 .....    | (16) |
| 2.2 定位网站 CI 形象 .....   | (17) |
| 2.3 确定栏目和版块 .....      | (18) |
| 2.3.1 栏目 .....         | (18) |
| 2.3.2 版块 .....         | (19) |
| 2.4 网站的目录结构和链接结构 ..... | (19) |
| 2.4.1 网站的目录结构 .....    | (19) |
| 2.4.2 网站的链接结构 .....    | (20) |
| 2.5 网站的整体风格和创意设计 ..... | (21) |
| 2.5.1 树立网站风格 .....     | (21) |
| 2.5.2 网站创意设计 .....     | (22) |
| 2.6 小结 .....           | (23) |

### 第3章 PHP 脚本语言基础

|                             |      |
|-----------------------------|------|
| 3.1 PHP 简介 .....            | (24) |
| 3.1.1 PHP 的起源 .....         | (24) |
| 3.1.2 PHP 的功能特性 .....       | (25) |
| 3.1.3 PHP 与其他 CGI 的比较 ..... | (26) |
| 3.2 PHP 的安装和配置 .....        | (27) |
| 3.2.1 安装环境需求和准备工作 .....     | (27) |
| 3.2.2 PHP 的配置及安装 .....      | (28) |
| 3.2.3 PHP 的编译配置及详细选项 .....  | (29) |
| 3.2.4 php.ini 配置详细选项 .....  | (33) |
| 3.3 PHP 的数据处理和程序控制 .....    | (39) |
| 3.3.1 PHP 语法简介 .....        | (39) |
| 3.3.2 常量和变量 .....           | (41) |
| 3.3.3 PHP 流程控制 .....        | (49) |
| 3.4 PHP 的重要函数库和函数 .....     | (56) |
| 3.4.1 Apache 服务器专用函数库 ..... | (56) |
| 3.4.2 数组处理函数库 .....         | (57) |
| 3.4.3 日期与时间函数库 .....        | (57) |
| 3.4.4 Oracle 数据库函数库 .....   | (58) |
| 3.4.5 Oracle 8 数据库函数库 ..... | (61) |
| 3.4.6 字符串处理函数库 .....        | (64) |
| 3.4.7 XML 解析函数库 .....       | (65) |
| 3.4.8 电子邮件函数库 .....         | (69) |
| 3.5 小结 .....                | (69) |

### 第4章 Oracle 数据库技术

|                                   |      |
|-----------------------------------|------|
| 4.1 Oracle 数据库介绍 .....            | (71) |
| 4.1.1 Oracle 数据库概述 .....          | (71) |
| 4.1.2 Oracle 数据库的特点 .....         | (71) |
| 4.1.3 Oracle 数据库的存储结构 .....       | (72) |
| 4.1.4 Oracle 的分布式数据库管理 .....      | (72) |
| 4.1.5 Oracle 常用的数据库字段类型 .....     | (73) |
| 4.2 Linux 环境下 Oracle 的安装与配置 ..... | (74) |
| 4.2.1 调整 Linux 内核与环境 .....        | (74) |
| 4.2.2 安装 Oracle .....             | (75) |
| 4.2.3 Oracle 的配置与基本操作 .....       | (77) |
| 4.2.4 客户端配置 .....                 | (79) |
| 4.3 Oracle 数据库体系结构 .....          | (79) |
| 4.3.1 定义数据库 .....                 | (79) |

|                                      |                                  |       |
|--------------------------------------|----------------------------------|-------|
| 4.3.2                                | SYS 和 SYSTEM 的模式 .....           | (79)  |
| 4.3.3                                | 数据库组件 .....                      | (80)  |
| 4.3.4                                | 数据库段 .....                       | (85)  |
| 4.3.5                                | Oracle 数据字典 .....                | (87)  |
| 4.3.6                                | 其他数据库对象 .....                    | (88)  |
| 4.4                                  | SQL 语言基础 .....                   | (89)  |
| 4.4.1                                | 术语 .....                         | (89)  |
| 4.4.2                                | 两种类型的 SQL 语言 .....               | (90)  |
| 4.4.3                                | SQL * Plus 的使用 .....             | (91)  |
| 4.4.4                                | 数值型数据 .....                      | (96)  |
| 4.4.5                                | 字符型数据 .....                      | (97)  |
| 4.4.6                                | 日期型数据 .....                      | (98)  |
| 4.4.7                                | 表列数据类型转换 .....                   | (98)  |
| 4.4.8                                | Update, Delete 和 Alter 等语句 ..... | (99)  |
| 4.5                                  | 小结 .....                         | (100) |
| <br><b>第 5 章 Apache 架设 Web 服务器技术</b> |                                  |       |
| 5.1                                  | Internet 与 Web 技术概况 .....        | (101) |
| 5.2                                  | 编译及安装 Apache 服务器 .....           | (103) |
| 5.3                                  | 配置 Apache 服务器 .....              | (104) |
| 5.3.1                                | 服务器配置 .....                      | (104) |
| 5.3.2                                | 启动和关闭服务器 .....                   | (106) |
| 5.4                                  | Apache 的启动选项简介 .....             | (107) |
| 5.5                                  | 虚拟域名服务的建立 .....                  | (107) |
| 5.6                                  | Proxy 服务设置 .....                 | (108) |
| 5.7                                  | Web 安全技术与防火墙 .....               | (109) |
| 5.8                                  | 小结 .....                         | (112) |
| <br><b>第 6 章 网络虚拟商店</b>              |                                  |       |
| 6.1                                  | 网络营销的发展现状 .....                  | (113) |
| 6.2                                  | 虚拟商店的模式 .....                    | (120) |
| 6.3                                  | 虚拟商店的设计 .....                    | (121) |
| 6.3.1                                | 布局设计 .....                       | (122) |
| 6.3.2                                | 框架设计 .....                       | (125) |
| 6.3.3                                | 主页面设计 .....                      | (127) |
| 6.4                                  | 虚拟商店的实现 .....                    | (134) |
| 6.4.1                                | 虚拟商店的部门结构 .....                  | (134) |
| 6.4.2                                | 虚拟商店的管理 .....                    | (137) |
| 6.4.3                                | 虚拟商店的数据库查询 .....                 | (147) |

|                               |       |
|-------------------------------|-------|
| 6.5 小结 .....                  | (151) |
| <b>第7章 电子产品目录的设计方法</b>        |       |
| 7.1 产品信息的存储 .....             | (153) |
| 7.2 产品信息查询功能设计 .....          | (154) |
| 7.3 小结 .....                  | (155) |
| <b>第8章 网上购物车的设计方法</b>         |       |
| 8.1 网上购物车及实现技术分析 .....        | (156) |
| 8.1.1 网上购物车定义及分析 .....        | (156) |
| 8.1.2 网上购物车实现技术 .....         | (156) |
| 8.2 网上购物车的数据库技术实现策略 .....     | (157) |
| 8.2.1 基于数据库技术的网上购物车设计思想 ..... | (157) |
| 8.2.2 基于数据库技术的网上购物车具体实现 ..... | (157) |
| 8.3 基于Java技术的网上购物车框架实例 .....  | (159) |
| 8.3.1 网上购物车框架的通信部分 .....      | (159) |
| 8.3.2 网上购物车框架的数据库设计部分 .....   | (161) |
| 8.4 小结 .....                  | (163) |
| <b>第9章 网上商务结算</b>             |       |
| 9.1 网上商务结算现状 .....            | (164) |
| 9.2 客户信息处理 .....              | (165) |
| 9.2.1 客户信息数据库结构设计 .....       | (165) |
| 9.2.2 系统结构设计 .....            | (166) |
| 9.3 处理税务问题 .....              | (167) |
| 9.3.1 电子商务的出现对税收政策产生的影响 ..... | (167) |
| 9.3.2 税务系统在电子商务应用上的一些探索 ..... | (168) |
| 9.4 结算过程 .....                | (169) |
| 9.5 企业配送中心管理实例 .....          | (169) |
| 9.6 小结 .....                  | (171) |
| <b>第10章 电子订单处理技术</b>          |       |
| 10.1 订单的处理流程 .....            | (172) |
| 10.2 向客户收费 .....              | (177) |
| 10.2.1 支付网关技术 .....           | (177) |
| 10.2.2 信用卡确认 .....            | (178) |
| 10.3 小结 .....                 | (182) |

## 第 11 章 支付系统的安全技术

|                                   |       |
|-----------------------------------|-------|
| 11.1 网上支付的安全技术概况·····             | (183) |
| 11.2 网上支付系统的结构与典型流程·····          | (185) |
| 11.2.1 网上支付结构·····                | (185) |
| 11.2.2 网上支付系统典型流程·····            | (186) |
| 11.3 常用的加密算法·····                 | (188) |
| 11.3.1 RSA 算法 ·····               | (188) |
| 11.3.2 DES 算法 ·····               | (190) |
| 11.3.3 ElGamal 算法 ·····           | (191) |
| 11.3.4 DSA 算法 ·····               | (192) |
| 11.3.5 MD5 算法 ·····               | (192) |
| 11.3.6 Blowfish 算法 ·····          | (195) |
| 11.4 认证技术·····                    | (197) |
| 11.4.1 常用的认证技术·····               | (197) |
| 11.4.2 使用 PHP3 进行 HTTP 用户认证 ····· | (199) |
| 11.5 电子商务的安全交易技术·····             | (200) |
| 11.5.1 电子商务系统对信息安全的要求·····        | (200) |
| 11.5.2 安全电子交易协议·····              | (200) |
| 11.6 小结·····                      | (204) |

## 第 12 章 网站的检索查询技术

|                                  |       |
|----------------------------------|-------|
| 12.1 高级 SQL 的应用 ·····            | (205) |
| 12.1.1 分组结果函数·····               | (205) |
| 12.1.2 嵌套查询·····                 | (206) |
| 12.1.3 在 SQL * Plus 中定义的变量 ····· | (207) |
| 12.2 一个简单查询的例子·····              | (207) |
| 12.3 优化数据库查询·····                | (211) |
| 12.4 小结·····                     | (213) |

## 第 13 章 电子商务时代的客户服务

|                               |       |
|-------------------------------|-------|
| 13.1 客户服务概述·····              | (214) |
| 13.2 呼叫中心的关键技术及构建方法·····      | (217) |
| 13.2.1 呼叫中心的关键技术·····         | (217) |
| 13.2.2 呼叫中心的构建方案·····         | (218) |
| 13.3 电子邮件列表的应用及实例·····        | (219) |
| 13.3.1 电子邮件列表的应用·····         | (219) |
| 13.3.2 电子邮件的简单应用实例·····       | (220) |
| 13.3.3 用 PHP 实现的意见反馈表实例 ····· | (225) |
| 13.4 订单跟踪设计方案·····            | (230) |

|                                  |       |
|----------------------------------|-------|
| 13.5 小结                          | (233) |
| <b>第 14 章 网站信息统计技术</b>           |       |
| 14.1 网站日志                        | (234) |
| 14.1.1 日志文件的工作原理                 | (234) |
| 14.1.2 透过数据看实质                   | (235) |
| 14.1.3 Linux 服务器的系统日志管理          | (238) |
| 14.1.4 网站日志统计的实现                 | (245) |
| 14.2 网站搜索引擎                      | (253) |
| 14.2.1 搜索引擎的分类                   | (254) |
| 14.2.2 用户的搜索行为                   | (254) |
| 14.2.3 关键词的选择                    | (255) |
| 14.2.4 世界主要搜索引擎的规则               | (255) |
| 14.2.5 采用 PHP 和 XML 技术构建小型搜索引擎   | (256) |
| 14.3 创建网站广告服务系统                  | (273) |
| 14.3.1 网站广告简介                    | (273) |
| 14.3.2 网站广告轮播系统的实现               | (274) |
| 14.4 小结                          | (279) |
| <b>第 15 章 Web 数据库的发布技术</b>       |       |
| 15.1 Web 信息发布与企业信息资源库            | (280) |
| 15.1.1 企业信息资源的 Web 信息发布简介        | (280) |
| 15.1.2 加强企业利用 Web 信息发布的意识        | (280) |
| 15.1.3 企业信息资源库的信息发布              | (281) |
| 15.1.4 关键技术问题                    | (282) |
| 15.1.5 信息发布应注意的问题                | (283) |
| 15.2 基于扩充 HTTP 协议的数据库发布技术的实现     | (283) |
| 15.2.1 数据库发布技术简介                 | (283) |
| 15.2.2 支持数据库发布的几种方式              | (284) |
| 15.2.3 基于扩充 HTTP 协议的数据库发布模型      | (285) |
| 15.2.4 扩展协议描述                    | (286) |
| 15.2.5 客户端的结果集管理以及历史记载           | (287) |
| 15.2.6 基于扩充 HTTP 协议的数据库发布模型的性能评价 | (288) |
| 15.3 小结                          | (288) |
| <b>第 16 章 虚拟企业电子商务应用的解决方案</b>    |       |
| 16.1 多层企业计算架构                    | (289) |
| 16.1.1 企业计算概论                    | (289) |
| 16.1.2 系统概要                      | (291) |

|        |                                 |       |
|--------|---------------------------------|-------|
| 16.1.3 | 系统的可规模化·····                    | (292) |
| 16.1.4 | 客户端与 Web 连接器间的连接维持 ·····        | (294) |
| 16.1.5 | 应用服务器(Application Server) ····· | (295) |
| 16.1.6 | 专业化的开发工具——Java ·····            | (296) |
| 16.1.7 | 四层架构应用系统的优势·····                | (296) |
| 16.2   | J2EE 在企业计算中的应用 ·····            | (297) |
| 16.2.1 | J2EE 概述 ·····                   | (297) |
| 16.2.2 | J2EE 体系结构 ·····                 | (299) |
| 16.2.3 | J2EE 的核心技术 ·····                | (302) |
| 16.2.4 | J2EE 与 XML 的组合技术 ·····          | (308) |
| 16.2.5 | J2EE 中 Bean/Servlet 的应用 ·····   | (315) |
| 16.2.6 | J2EE 开发企业应用实例 ·····             | (321) |
| 16.3   | 小结·····                         | (327) |

## 第 17 章 虚拟企业电子商务应用的集成技术

|        |                                    |       |
|--------|------------------------------------|-------|
| 17.1   | WWW 与数据库系统信息集成技术 ·····             | (328) |
| 17.1.1 | 现状·····                            | (328) |
| 17.1.2 | 通用的 WWW 与数据库系统信息集成方法 ·····         | (328) |
| 17.1.3 | 典型的 WWW 与数据库系统信息集成方法 ·····         | (331) |
| 17.2   | 虚拟企业中的信息集成技术·····                  | (331) |
| 17.3   | Web,Java 和 CORBA 技术的集成 ·····       | (334) |
| 17.3.1 | CORBA 和 Java 的集成 ·····             | (335) |
| 17.3.2 | 基于 CORBA 和 Java 的三层 Web 体系结构 ····· | (336) |
| 17.3.3 | Web 对象计算的实现方法 ·····                | (336) |
| 17.4   | 小结·····                            | (339) |

## 主要英文缩写索引

### 参考文献

### 参考网站

# Contents

About the Authors

Preface

## Chapter 1 The Rudimental Knowledge of E-Commerce

|       |                                                                  |      |
|-------|------------------------------------------------------------------|------|
| 1.1   | The Concept Model of E-Commerce .....                            | (1)  |
| 1.2   | The Main Contents of E-Commerce .....                            | (2)  |
| 1.2.1 | The Catalog of E-Commerce .....                                  | (2)  |
| 1.2.2 | E-Commerce Based on Internet .....                               | (3)  |
| 1.2.3 | The Main Application Field of E-Commerce .....                   | (4)  |
| 1.3   | The Key Technology of E-Commerce .....                           | (4)  |
| 1.3.1 | The Security and Authentication Technology of E-Commerce .....   | (4)  |
| 1.3.2 | The Payment Technology of E-Commerce .....                       | (10) |
| 1.3.3 | The Technology of Web Browser .....                              | (10) |
| 1.3.4 | The Technology of Database .....                                 | (11) |
| 1.4   | The Virtual Enterprise under the Environment of E-Commerce ..... | (11) |
| 1.5   | The Purpose of Building Website in Enterprise .....              | (13) |
| 1.6   | Summary .....                                                    | (14) |

## Chapter 2 The Design Methods of E-Commerce Website

|       |                                                         |      |
|-------|---------------------------------------------------------|------|
| 2.1   | Deside the Subject and Name of Website .....            | (16) |
| 2.2   | Deside Corporate Identity of Website .....              | (17) |
| 2.3   | Deside the Columns and the Space of a Whole Page .....  | (18) |
| 2.3.1 | The Columns .....                                       | (18) |
| 2.3.2 | The Space of a Whole Page .....                         | (19) |
| 2.4   | The Structure of Directory and Linkage of Website ..... | (19) |
| 2.4.1 | The Structure of Directory .....                        | (19) |
| 2.4.2 | The Structure of Linkage .....                          | (20) |
| 2.5   | The Whole Style and Originality Design of Website ..... | (21) |
| 2.5.1 | Create the Style of Website .....                       | (21) |
| 2.5.2 | Design the Originality of Website .....                 | (22) |
| 2.6   | Summary .....                                           | (23) |

## Chapter 3 The Rudimental Knowledge of PHP Script

|     |                               |      |
|-----|-------------------------------|------|
| 3.1 | The Introduction to PHP ..... | (24) |
|-----|-------------------------------|------|