

ORACLE

Oracle Press™

ORACLE8i

CERTIFIED PROFESSIONAL™ DBA Upgrade Exam Guide (Exam 1Z0-020)



Inside: Real Practice for
the Real Tests! CD-ROM
Includes 250 Interactive
Exam-Based Questions

Pass the Oracle8i DBA
Upgrade Exam with this
Ultimate Preparation Kit—
Exclusively from Oracle Press

THE AUTHORIZED

Oracle Press™

EDITIONS
ONLY FROM

OSBORNE 

JASON S. COUCHMAN

OCP-Certified Oracle DBA **ORACLE**
Certified Professional

COVERS ORACLE DATABASE
RELEASES 7.x, 8.0, AND 8i

ORACLE (P)

*Oracle Press*TM

Oracle8i Certified Professional DBA Upgrade Exam Guide

Jason S. Couchman

Osborne/McGraw-Hill

New York Chicago San Francisco
Lisbon London Madrid Mexico City Munich
New Delhi San Juan Seoul Singapore Sydney Toronto

Osborne/McGraw-Hill
2600 Tenth Street
Berkeley, California 94710
U.S.A.

To arrange bulk purchase discounts for sales promotions, premiums, or fund-raisers, please contact Osborne/McGraw-Hill at the above address. For information on translations or book distributors outside the U.S.A., please see the International Contact Information page immediately following the index of this book.

Oracle8i Certified Professional DBA Upgrade Exam Guide

Copyright © 2001 by The McGraw-Hill Companies. All rights reserved. Printed in the United States of America. Except as permitted under the Copyright Act of 1976, no part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of the publisher, with the exception that the program listings may be entered, stored, and executed in a computer system, but they may not be reproduced for publication.

Oracle is a registered trademark and Oracle8i is a trademark or registered trademark of Oracle Corporation.

1234567890 DOC DOC 01987654321
Book p/n 0-07-219266-6 and CD p/n 0-07-219267-4
parts of
ISBN 0-07-219265-8

Publisher

Brandon A. Nordin

Vice President & Associate Publisher

Scott Rogers

Acquisitions Editor

Jeremy Judson

Project Editor

Jennifer Malnick

Acquisitions Coordinator

Ross Doll

Technical Editor

Sheldon Barry, Ulrike Schwinn

Copy Editor

Dennis Weaver

Proofreader

Carroll Proffitt

Indexer

Jack Lewis

Computer Designers

George, Toma Charbak, Tara A. Davis,
Lucie Ericksen

Illustrator

Alex Putney

Series Design

Jani Beckwith

Cover Design

William Voss

This book was composed with Corel VENTURA™ Publisher.

Information has been obtained by Osborne/McGraw-Hill from sources believed to be reliable. However, because of the possibility of human or mechanical error by our sources, Osborne/McGraw-Hill, or others, Osborne/McGraw-Hill does not guarantee the accuracy, adequacy, or completeness of any information and is not responsible for any errors or omissions or the results obtained from use of such information.

To Larry Wolper

About the Author

Jason S. Couchman is a database consultant and the author of *Oracle8i Certified Professional DBA Certification Exam Guide*, also from Oracle Press. He is a regular presenter on Oracle and OCP at international Oracle user conferences and meetings. His work has been published by *Oracle Magazine*, Harvard Business School Publishing, and Gannett Newspapers, among others.



Certified Professional

About the Oracle Certification Exams

The expertise of Oracle database administrators (DBAs) is integral to the success of today's increasingly complex system environments. The best DBAs operate primarily behind the scenes, looking for ways to fine-tune day-to-day performance to prevent unscheduled crises and hours of expensive downtime. They know they stand between optimal performance and a crisis that could bring a company to a standstill. The Oracle Certified Database Administrator Track provides DBAs with tangible evidence of their skills with the Oracle database.

The Oracle Certified Professional (OCP) Program was developed by Oracle to recognize technical professionals who can demonstrate the depth of knowledge and hands-on skills required to maximize Oracle's core products according to a rigorous standard established by Oracle. By earning professional certification, you can translate the impressive knowledge and skill you have worked so hard to accumulate into a tangible credential that can lead to greater job security or more challenging, better-paying opportunities.

Oracle Certified Professionals are eligible to receive use of the Oracle Certified Professional logo and a certificate for framing.

Requirements for Upgrade Certification

To earn your Oracle8i upgrade certification you must pass one test covering the following objectives:

- Database Management
- Internals
- Object Management I
- Object Management II
- Recoverability Enhancement
- Advanced New Features

If you fail the test, you must wait at least 30 days before you retake the exam. You may attempt the test up to three times in a twelve-month period.

Recertification

Oracle announces the requirements for upgrading your certification based on the release of new products and upgrades. Oracle will give six months advance notice when an exam version is due to expire.

Exam Format

The computer-based exams are multiple-choice tests, consisting of 50–60 questions that must be completed in 90 minutes.

20% OCP Exam Discount Offer

You can receive a 20% exam discount when you register for a FREE membership to Oracle Technology Network (OTN) at <http://technet.oracle.com/membership>. OTN is your definitive source for Oracle technical information. As a member, you will be part of an online community with access to:

- Oracle Certified Professional (OCP) discounts and training offers
- Free software downloads
- OTN sponsored eSeminars and conferences
- Discussion forums on key technology topics

Foreword



My interest in Oracle certification began in 1996, when I read about the Oracle DBA certificate offered by the Chauncey Group. I found it difficult to prepare for that certification exam for two reasons: first, there was an absence of practice questions readily available; second, preparation for the exam involved reviewing six or seven different manuals and Oracle Press books, none of which were particularly suited to the task. Judging from the response to the proliferation of titles now available in the OCP Exam Guide Series from Oracle Press, it would seem others have had similar experiences.

This book is divided into two units, the first containing preparatory material for the Oracle8i New Features for Administrators exam in the Oracle8i DBA certification track from Oracle. The first unit has six chapters, and it begins with a complete listing of all the topics tested by the exam as defined by the Oracle Certified Professional Oracle8i DBA Track Candidate Guide, a free publication available from Oracle University. Each chapter contains several discussions focusing on a particular topic or subtopic objective listed by the candidate guide. Each discussion is followed with a For Review section, listing the three or four most important concepts for you to retain from the discussion. After the review, the text will give two to six exercise questions in exam-based multiple-choice or short answer format. Following the questions you will find an answer key for those questions. Thus, you should find that you're never more than a few pages away from demonstrating what you've learned

about Oracle8i new features for the OCP exam. At the end of each chapter, you will find a short summary of what was covered in the chapter, followed by a Two-Minute Drill. The Two-Minute Drill contains another bullet list of fast facts to review as crib notes for the days leading up to your OCP exam. The chapter will conclude with 12–20 short-answer and exam-based multiple choice questions designed to help you further test your understanding of the materials you learned in the chapter.

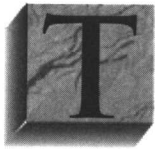
The second unit consists of one chapter containing three full-length practice exams. Each test contains exam-based multiple choice and scenario-based questions that are designed to help you strengthen your test-taking skills for the OCP exams. You will also find answers and in-depth explanations for every question in the practice exams at the end of that chapter, along with a reference back to the exam topic and subtopic objectives from the OCP Candidate Guide. This feature should help you determine your areas requiring further improvement with pin-point accuracy.

There are two appendixes to this text. Appendix A contains materials designed to help you better understand object-relational features in Oracle8i. Appendix B contains a glossary of related Oracle database terms that might help you gain a big-picture understanding of the Oracle8i database for your continued professional growth.

Finally, a note about updates and errata. Because OCP covers such vast ground in a short time, this has become a living text. If you feel you have encountered difficulties due to errors, you can either check out **www.exampilot.com** to find the latest errata, or send me an e-mail directly at **jcouchman@mindspring.com**.

Good luck!

Acknowledgments



There are many people I would like to thank for their help with writing this book. My first and most heartfelt thanks goes to the dedicated readers of my other books who took time out of their busy schedules to send feedback. I have listened to your praise and constructive criticism, and made every effort to correct and amplify my work based on the points you made. Please keep the e-mail coming—it is by far the most effective way to make the book better!

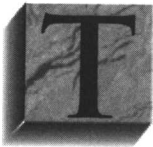
Next, a note of gratitude to the folks at Oracle who made this book possible. Ulrike Schwinn has been a loyal associate, colleague, and friend on my ongoing effort to help 80,000+ readers get Oracle certified. Thanks also to Julia Johnson, Mike Serpe, Jim Dilanni, and Chris Pirie from Oracle University for their feedback and assistance with overall direction for the OCP DBA track. As always, thanks to the fine folks at Osborne—Jeremy Judson, Scott Rogers, Ross Doll, and Carol Rosenow. Special thanks to the folks in project editorial as well—Jennifer Malnick and Dennis Weaver for a thorough copyedit and for accommodating some important last-minute changes.

The last person I want to thank is Larry Wolper, the person to whom my ninth book is dedicated. The father of someone I dated in college nearly ten years ago, Larry appeared in my life just as my interest in computers was solidifying—and not a moment too soon. Larry provided a blueprint for professional success that I have studied closely. He rose to the level of partner within Ernst & Young's healthcare

practice, then left to form his own consulting firm advising doctors on the very latest developments in managed healthcare and HMOs. Larry is also the author of several authoritative texts on healthcare management and HMOs used by many business schools in America today. I recently learned that Larry is now a professor at Columbia University's School for Public Health, which comes as little surprise to me. He always expressed a fondness for teaching when I knew him, so I'm glad he's found an outlet for his passion.

Unfortunately for me, my contact with Larry ended when his daughter Emily and I broke up. *Good mentors are nearly impossible to find, so for me meeting Larry was like tripping over the stone that uncovers a gold mine.* I recently became reacquainted with Emily under very unusual circumstances, and I hope that these circumstances will make it possible to reacquaint myself with Larry as well, if only to thank him for the career blueprint he drew for me nearly a decade ago. Thanks, Larry!

Introduction



he Oracle Certified Professional DBA certification exam series is the latest knowledge good from Oracle Corporation. Called OCP, it represents the culmination of many people's request for objective standards in one of the hottest markets in the software field, Oracle database administration. The presence of OCP on the market indicates an important reality about Oracle as a career path. Oracle is mature, robust, and stable for enterprise-wide information management. However, corporations facing a severe shortage of qualified Oracle professionals need a measurement for Oracle expertise.

The OCP certification core track for DBAs consists of five tests in the following areas of Oracle8i: SQL and PL/SQL, database administration, performance tuning, network administration, and backup/recovery. As of this printing, each test consists of about 60 multiple choice questions pertaining to the recommended usage of Oracle databases. You have 90 minutes to take each exam. The current content of those five exams covers Oracle through Oracle8i. Obtaining certification for Oracle8i through the core track is contingent on taking and passing *all five* core examinations. Alternately, if you have already passed the core DBA exams for an earlier version of Oracle, you can use this book to recertify your Oracle8i expertise.

Why Get Certified?

If you are already an Oracle professional, you may wonder, “Why should I get certified?” Perhaps you have a successful career as an Oracle DBA, enjoying the instant prestige your résumé gets with that one magic word on it. With market forces currently in your favor, you’re right to wonder. But, while no one is saying you don’t know Oracle when you put the magic word on your résumé, can you prove how well you *do* know Oracle without undergoing a technical interview? I started asking myself that question last year when Oracle certification began to emerge. I was surprised to find out that, after years of using Oracle, developing Oracle applications, and administering Oracle databases for Fortune 500 companies, there were a lot of things about Oracle I *didn’t* know. And the only reason I know them now is because I took the time and effort to become certified.

If you’re looking for another reason to become certified, consider the example of computer professionals with Novell NetWare experience in the late 1980s and early 1990s. It seemed that anyone with even a little experience in Novell could count on a fantastic job offer. Then Novell introduced its CNE/CNA programs. At first, employers were fine hiring professionals with or without the certificate. As time went on, however, employers no longer asked for computer professionals with Novell NetWare experience—they asked for CNEs and CNAs. A similar phenomenon can be witnessed in the arena of Microsoft Windows NT, where the MCSE has already become the standard by which those professionals are measuring their skills. Furthermore, with the latest economic downturn in the technology-driven U.S. economy comes the possibility of involuntary IT job changes. If you want to stay competitive in the field of Oracle database administration through those changes, your real question shouldn’t be *whether* you should become certified, but *when*.

If you are not in the field of Oracle database management, or if you want to advance your career using Oracle products, there has never been a better time to do so. OCP is already altering the playing field for DBAs by changing the focus of the Oracle skill set from “how many years have you used it” to “do you know how to use it?” That shift benefits organizations using Oracle as much as it benefits the professionals who use Oracle because the emphasis is on *skills*, not attrition.

Managers who are faced with the task of hiring Oracle professionals can breathe a sigh of relief with the debut of OCP as well. By seeking professionals who are certified, managers can spend less time trying to determine if the candidate possesses the Oracle skills for the job, and more time assessing the candidate’s work habits and compatibility with the team.

How Should You Prepare for the Exam?

If you spend your free time studying things like the utility that helps you investigate the contents of your redo log, you are probably ready to take the OCP Oracle8i DBA new features exam now. For the rest of us, Oracle and other companies offer classroom- and computer-based training options to learn Oracle. Now users have another option—this book! By selecting this book, you demonstrate two excellent characteristics—that you are committed to a superior career in the field of Oracle database administration, and that you care about preparing for the exam correctly and thoroughly. And by the way, the utility that helps you investigate the contents of your redo log is called *LogMiner*, and it is on the OCP Oracle8i DBA new features exam. That fact, along with thousands of others, is covered extensively in this book to help you prepare for, and pass, the OCP Oracle8i DBA new features certification exam.

DBA Certification Past and Present

Oracle certification started in the mid 1990s with the involvement of the Chauncey Group International, a division of Educational Testing Service. With the help of many Oracle DBAs, Chauncey put together an objective fact-based and scenario-based examination on Oracle database administration. This test did an excellent job of measuring knowledge of Oracle7, versions 7.0 to 7.2. Consisting of 60 questions, Chauncey's exam covered several different topic areas, including backup and recovery, security, administration, and performance tuning, all in one test.

Oracle Corporation has taken DBA certification ahead with the advent of OCP. Their certification examination is actually five tests, each consisting of about 60 questions. By quintupling the number of questions you must answer, Oracle requires that you have unprecedented depth of knowledge in Oracle database administration. Oracle has also committed to including scenario-based questions on the OCP examinations, and preparation material for these new questions is included in this book as well. Scenario-based questions require you not only to know the facts about Oracle, but also to understand how to apply those facts in real-life situations.

Oracle's final contribution to the area of Oracle certification is a commitment to reviewing and updating the material presented in the certification exams. Oracle-certified DBAs will be required to maintain their certification by retaking the certification exams periodically—meaning that those who certify will stay on the cutting edge of the Oracle database better than those who do not.

The First Steps

It is essential that you begin your preparation for the OCP DBA certification exams by understanding the test contents. You can download the OCP Candidate Guide for the Oracle8i DBA track from the Oracle University Web site, <http://www.oracle.com/education/certification>. The Candidate Guide publishes the topic areas for each exam corresponding to chapter and section discussions in this book.

Next, understand the test interface you will encounter on exam day. Figure I-1 is contains a diagram of the actual test graphical user interface. The features of the

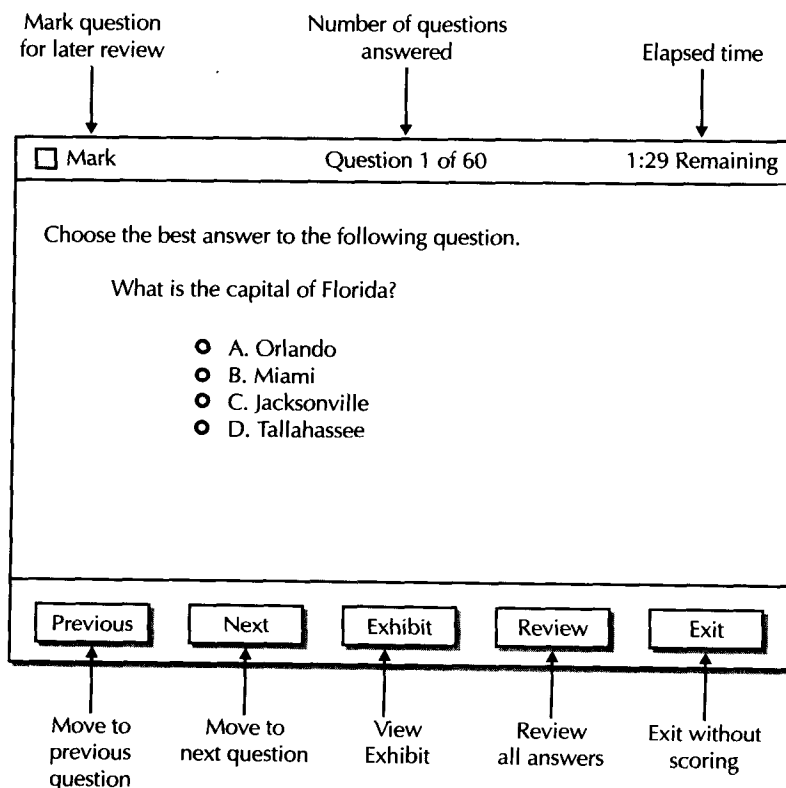


FIGURE I-1. *Sylvan Prometric exam interface illustration*

interface are indicated in the figure. Several of the main features of the assessment test interface are explained here. The top of the interface tells you how much time has elapsed and the number of questions you have answered. There is also a checkbox in the upper left corner of the interface. You can use this checkbox to mark questions you would like to review later. In the main window of the interface is the actual production question, along with the choices. The interface generally allows the user to select only one answer, unless the question directs you to select more answers. In this case, the interface will allow you to select only as many answers as the question requests. After answering a question, or marking the question for later review, the candidate can move on to the next question by clicking the appropriate button in the lower left corner. The next button over to the left allows you to return to the previous question on the OCP exam. You can score your questions at any time by pressing the grade test button on the bottom right side. The final point feature to cover is the exhibit button. In some cases, you may require the use of an exhibit to answer a question. If the question does not require use of an exhibit, the button will be grayed out.

Once you've completed all questions on the exam, the Sylvan Prometric interface will display a listing of all the answers you selected, shown in Figure I-2. The questions you marked for later review will be highlighted, and an interface will be present that guides you through review of all those questions you marked. You can also review individual questions, or simply have Sylvan Prometric grade your exam.

The Assessment Test indicates your performance by means of a grade window, such as the one displayed in Figure I-3. It details the number of questions you answered correctly, along with your percentage score based on 100 percent. You will be shown a section-by-section breakdown of how you did according to the topics covered on the exam as published in the OCP DBA Candidate Guide from Oracle. Finally, a bar graph indicates where your performance falls in comparison to the maximum score possible on the exam. The OCP exam reports your score immediately after you exit the exam, so you will know right then whether you pass in a similar fashion as the assessment test. Both interfaces offer you the ability to print a report of your score.

Strategies for Improving Your Score

When OCP exams were first released, the score range for each OCP Exam was between 200 and 800. However, Oracle has vacillated on whether to scale the OCP exam score, and has experimented lately with reporting only a raw score of the number of questions you answered correctly. The bottom line is still the same. Since there are typically 60 questions on an OCP exam, you want to make sure you get at least 75 percent, or 45, of the questions right in order to pass. Given the recent use of questions with two or even three correct answers on OCP exams, you need to be

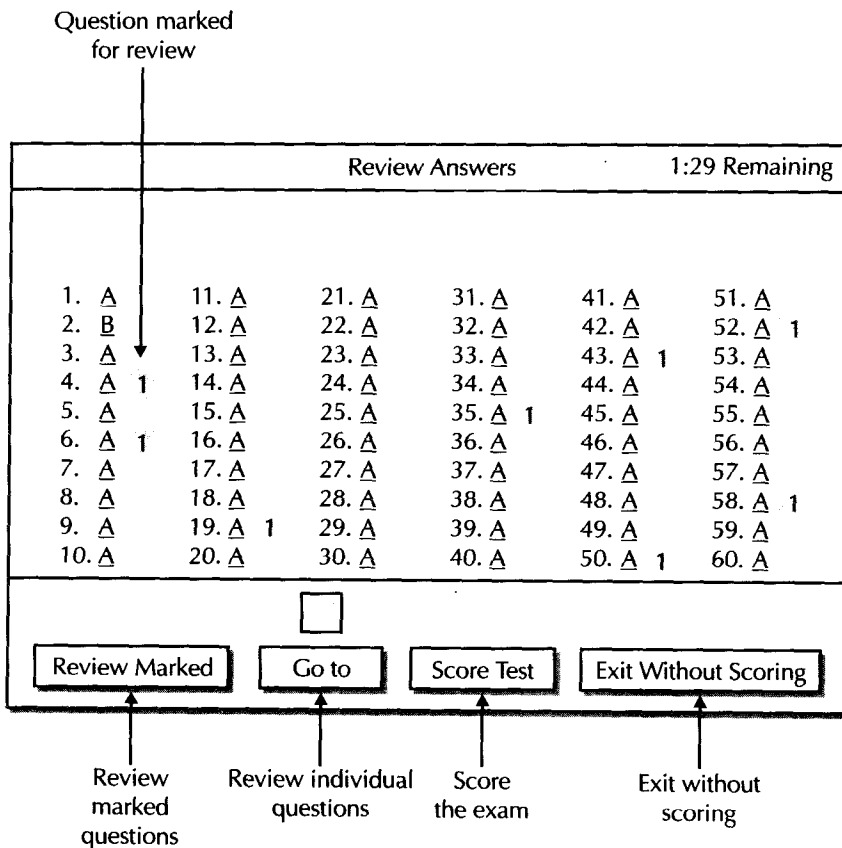


FIGURE I-2. *Sylvan Prometric answer interface illustration*

careful to select *all* correct answer choices on a question or else you may not get full credit for a correct answer. There is no penalty for wrong answers. The OCP examinations required for the DBA track are listed below. The OCP DBA certification exam is administered at Sylvan Prometric test centers. To schedule your OCP Exam in the United States, call Sylvan Prometric at (800) 891-EXAM. For contact information outside the USA, refer to the assessment test software. For