

# Oracle® Certification Program Candidate Guide

*Oracle® Database Administrator Certified Associate*  
*Oracle® Database Administrator Certified Professional*  
*Oracle® Database Administrator Certified Master*

*January 2005*

**ORACLE®**

Certified Associate

**ORACLE®**

Certified Professional

**ORACLE®**

Certified Master

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*Oracle Certification Program Candidate Guide*

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*September 2004*



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Visit the Oracle Certification Program Web site at <http://www.oracle.com/education/certification/>.

# 1

## *Benefits of Oracle Certification*

The demand for professionals in the information technology (IT) industry is high, and the competition for jobs is intense. Individuals, experienced or new to the profession, need to know what skills make them attractive to employers. Employers look for ways to select prospective employees who have the solid foundation of skills needed for effective performance.

The Oracle Certification Program helps the IT industry establish a standard of competence in key entry-level and professional job roles.

An Oracle Certification is a valuable, industry-recognized credential that signifies a proven level of knowledge and ability. Each higher level of Oracle certification brings a higher standard of benchmarked skill and ability, which leads to greater opportunities and higher pay.

*"Technical certifications have evolved from a hiring tool to a screening tool: If you don't have them, you aren't viewed as a serious candidate."*<sup>1</sup>

### **Benefits to the Technical Professional**

An **Oracle Certified Associate (OCA)** demonstrates a solid understanding of the foundation skills of a given job role, which can be applied at an apprentice or entry level.

By earning an OCA certification, you can have increased entry-level job opportunities. The OCA is the stepping-stone to starting a successful career as an Oracle professional.

Beyond OCA, by becoming an **Oracle Certified Professional (OCP)** you demonstrate your understanding of the full range of skills required by Oracle professionals in your chosen job role. An OCP is in high demand in today's marketplace, and the level of demand is expected to grow with each new installation of Oracle technologies around the world. An Oracle Certification helps raise your visibility and increases your access to the industry's most challenging opportunities.

*"Oracle's certification strength in a declining economy is due in part to the fact that more complex, high-level certifications appear to be less vulnerable"*<sup>2</sup>

An **Oracle Certified Master (OCM)** certification is the highest credential that an Oracle professional can earn in the Oracle Certification Program. An Oracle DBA Certified Master is a top-level Oracle expert who has in-depth technical knowledge of the Oracle data server and industry experience in managing mission-critical Oracle database systems and applications. OCMs are looked upon as experts within their organizations, among their peers, and across the industry.

The true value of earning an Oracle Certification credential is increased opportunity. With more opportunity come career growth and higher pay.

***"Given the key importance of data as an organizational asset, it should come to no surprise that DBAs remain in high demand and that related training certification programs are popular even in this time of economic trouble... By the numbers, Oracle leads the DBMS/DBA certification area."*<sup>3</sup>**

*1 Source: Employers Raise the Bar on Certification, Information Week, 2002*

*2 Source: IDC Certification Report and Forecast 2002–2006*

*3 Source: Certified Expert: Working as a Database Administrator, CertMag, January 2003*

## **Benefits to the IT Employer**

The Oracle Certification Program is also valuable to hiring managers who want to distinguish among candidates for critical IT positions. For companies that send employees for annual IT training, certification helps ensure a return on the training investment by validating the knowledge and understanding gained during training sessions. Companies can also combine certification with an employee development program to enhance employee loyalty and performance on the job. Hiring certified professionals can have a direct impact on a company's success.

# 2

## **Oracle<sup>®</sup> Database Administrator Certified Associate Oracle<sup>®</sup> Database Administrator Certified Professional Oracle<sup>®</sup> Database Administrator Certified Master Paths**

### **Oracle<sup>®</sup>i DBA Certification Overview**

The expertise of Oracle database administrators (DBAs) is integral to the success of today's increasingly complex system environments. Their critical work requires a broad understanding of the architecture and processes of the Oracle database, as well as plenty of hands-on experience in solving problems. The best DBAs know that they stand between optimal performance and an event that could bring their company to a standstill.

*“Currently, Oracle skills remain the most sought-after database skills in the IT marketplace.”<sup>1</sup>*

### **Oracle<sup>®</sup>i Database Administrator Certified Associate (OCA)**

An Oracle<sup>®</sup>i Database Administrator Certified Associate (OCA) certification is an entry-level credential for candidates who have a proven foundation of basic knowledge, which they can build upon as they work toward a career as an Oracle database administrator. An OCA can next earn Oracle<sup>®</sup>i DBA Certified Professional (OCP) and Oracle<sup>®</sup>i DBA Certified Master (OCM) credentials.

### **Oracle<sup>®</sup>i Database Administrator Certified Professional (OCP)**

By moving upward and earning OCP status, Oracle professionals demonstrate the complete set of skills that are required for working independently as an expert DBA. The OCP credential provides candidates increased opportunities and higher pay. The OCP DBA path requires

four tests two for OCA certification plus two more. Additionally, Oracle now requires (as of September 1, 2002) all newly starting OCP candidates to complete one Oracle University hands-on course in preparation for their exams and for future roles as an Oracle technologist. An OCP certification helps you translate your knowledge and skills into increased visibility through the market's most highly valued database benchmark program.

**View the chart on page 5 for a list of required tests and course requirements to earn the Oracle<sup>®</sup>i Database OCP credential.**

### **Oracle<sup>®</sup>i DBA Certified Master (OCM)**

Beyond OCP, highly experienced DBAs who are ready for a new challenge can earn the highly respected Oracle<sup>®</sup>i DBA Certified Master (OCM) credential, which can help their careers develop further and open doors to senior DBA and consulting opportunities. The Oracle<sup>®</sup>i DBA Certified Master Program requires Oracle University coursework on advanced DBA topics and hands-on demonstration of DBA skills in a live application environment. For more information about this offering, consult the Oracle Certification Program Web site.

## Upgrading Your Current OCP Credential to Oracle9i

### Single Release Upgrade Exams

Generally, one exam is required for OCPs to upgrade to each new release of an Oracle DBA track. For example, one exam upgrades the Oracle7.3 credential to Oracle8, one exam from Oracle8 to Oracle8i, one exam from Oracle8i to Oracle9i and one exam from Oracle9i to Oracle 10g.

#### Oracle7.3 to Oracle8 DBA OCP

Exam #1Z0-010 Oracle8: New Features for Administrators.

#### Oracle8 to Oracle8i DBA OCP

Exam #1Z0-020 Oracle8i: New Features for Administrators.

#### Oracle8i to Oracle9i DBA OCP

Exam #1Z0-030 Oracle9i Database: New Features for Administrators.

### Bridged Release Upgrade Exams

OCPs with older credentials may skip intervening releases and upgrade to a current technology with a single exam. For example, one exam upgrades Oracle7.3 and Oracle8 DBAs directly to Oracle9i, and one exam upgrades Oracle8i DBAs directly to Oracle Database 10g.

#### Oracle7.3 and Oracle8 DBA OCPs to Oracle9i

Exam #1Z0-035 Oracle9i DBA: New Features for Oracle7.3 and Oracle8 OCPs.

### Candidate Qualifications

Most candidates for DBA certification combine up-to-date training with some level of on-the-job experience. There is no "typical" candidate. Many of the questions on the OCP tests are based on real job scenarios. In addition to the appropriate training, you need hands-on experience with the software. Trial software versions and hands-on labs are included in most Oracle University training products.

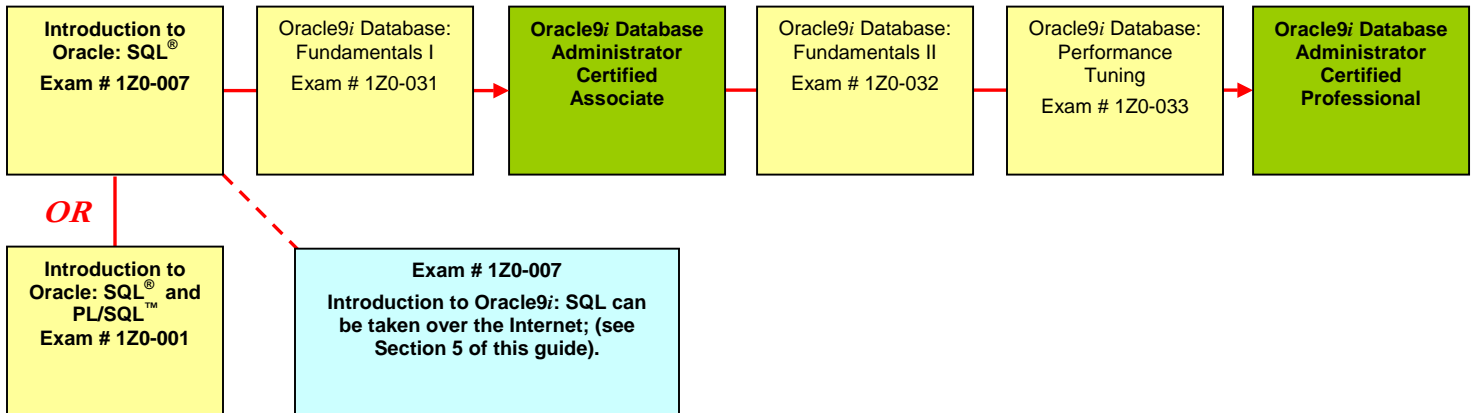
*1 Source: IDC Certification Report 2002*

## Required Exams and Selected Hands-On Courses for Oracle9i Database Certification Paths

Oracle customers and business partners demand hands-on experience—with all aspects of Oracle database—from their Oracle Certified Professionals. In order to meet our commitments to our customers and constituents, Oracle University has recently made a significant investment toward building more validity and quality into its Certification Program including scenario-based exam questions.

### Exams Required

Oracle9i Database Administrator Certified Associate  
Oracle9i Database Administrator Certified Professional



### Oracle University Hands-On Course Requirement

To earn your Oracle9i Certified Professional credential, you must pass the exams listed above and complete one of the selected Oracle University courses listed below.

Introduction to Oracle9i: SQL	Oracle9i Database: Fundamentals II
Introduction to Oracle8i: SQL and PL/SQL	Oracle9i Database: Performance Tuning
Oracle9i Database: Fundamentals I	Oracle9i Database: New Features for Administrators

Note the additional courses that have been added to the list of those that fulfil the Oracle9i DBA OCP Hands-On Course Requirement. Beginning June 21, 2004 candidates may now attend any one of the courses below to meet the requirement.

Oracle Database 10g: New Features for Administrators	Migrating from Sybase to Oracle9i - ILO
Oracle9i Database: Advanced Replication	Oracle 9i: Data Guard Administration
Oracle9i Database: Implementing Oracle Streams	Oracle9i Database: Advanced Backup and Recovery using RMAN
Oracle9i: Program with PL/SQL	Oracle9i Database: Security
Introduction to Oracle9i: SQL Basics - ILO	Oracle9i Database: Spatial
Oracle Enterprise Manager 9i	Oracle9i Database: SQL Tuning Workshop R.2
Develop PL/SQL Program Units	Oracle9i Database: Using OLAP
Introduction to Oracle for Experienced SQL Users	Oracle9i Release 2: Real Application Clusters
Managing Oracle on Linux	Oracle9i: Advanced PL/SQL
Managing Oracle on Windows 2000	Oracle9i: Data Warehouse Administration
Migrating from Sybase to Oracle9i	Migrating from SQL Server to Oracle9i

### **Current OCP Candidates Tested *BEFORE* September 1, 2002**

OCP candidates who have already completed at least one exam toward earning their OCP credential before September 1, 2002, will be permitted to earn their OCP credential without having to complete one of the hands-on courses listed above.

### **New OCP Candidates Tested *AFTER* September 1, 2002**

All new OCP candidates will continue to be permitted to enroll in the required exams before fulfilling the hands-on course requirement, but will not be certified until completing both the exams and course requirement.

Note that candidates must first complete the OCA certification before obtaining an OCP credential.

### **OAI, OIA, and Workforce Development Students**

Note that students completing their Oracle study with an Oracle Academic Initiative (OAI) program, Oracle Internet Academy (OIA), or an Oracle Workforce Development school do *NOT* need to complete one of the specific courses listed on the previous page, since these students are already completing this curriculum with their program of study.

### **Certified OCP DBAs**

Currently certified OCP DBAs are not required to complete any additional hands-on courses; they are required only to pass the upgrade exam.

The courses listed on the previous page are offered at Oracle University centers around the world as well as at many Oracle Authorized Education Centers, and Oracle Authorized Education Partners. Instructor-led courses are also now available online, enabling candidates to complete this requirement from their home or office if travel or time is a constraint.

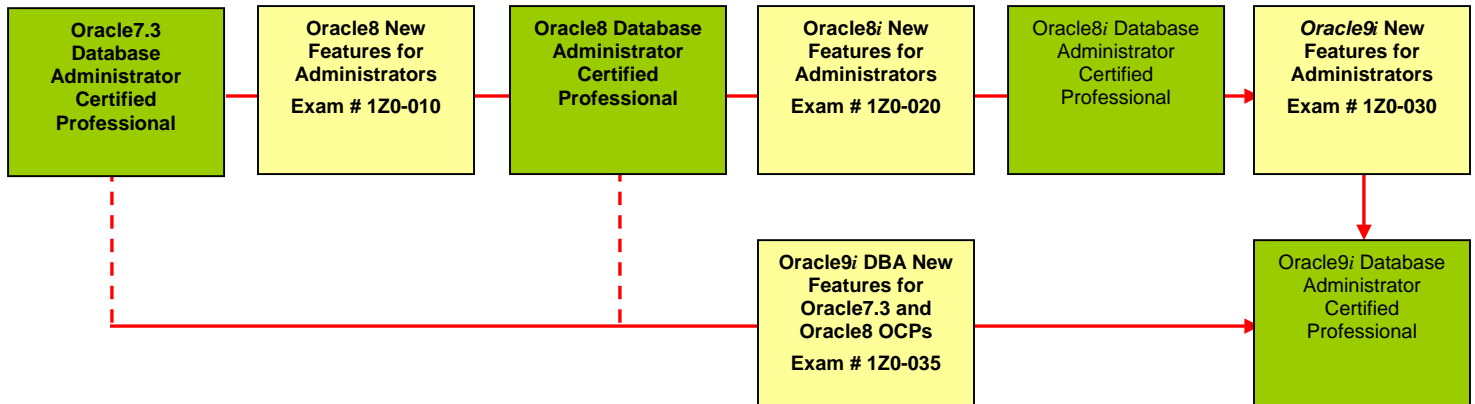
To find more information about these courses, or to enroll, visit the Oracle University Web site at <http://www.oracle.com/education/> and select the Oracle9i DBA Learning Path.

\* This title is not available online.



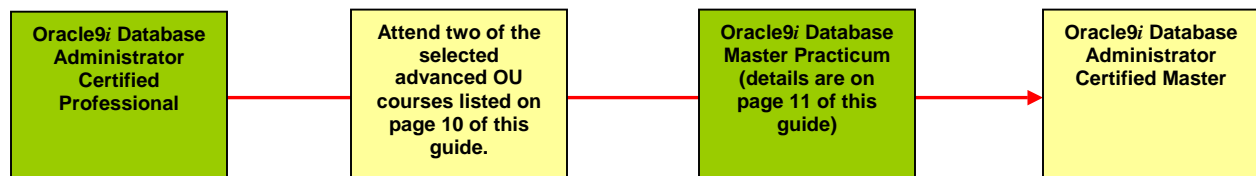
## Oracle9i Database Upgrade Certification Paths

Follow the paths in the diagram below to upgrade your current Oracle DBA OCP credential.



## Oracle9i Database Certified Master Certification Path

Follow the path in the diagram below to earn your Oracle9i DBA Certified Master credential.



## Oracle9i Database Administrator Certified Master Requirements

To earn your Oracle9i Database Administrator Certified Master credential, you must meet the following requirements.

### Oracle9i DBA Certified Master (OCM)

An OCM certification is the highest credential that an Oracle professional can earn in the Oracle Certification Program.

An Oracle9i Database Administrator Certified Master is a top-level Oracle expert who has in-depth technical knowledge of the Oracle data server and industry experience in managing mission-critical Oracle database systems and applications. OCMs are looked upon as experts within their organizations, among their peers, and across the industry.

### Oracle9i Database OCM Practicum

To earn the Oracle9i Database Administrator Certified Master credential, candidates must pass the practicum exam.

The Oracle9i DBA Certified Master practicum is a two-day live application event where participants are required to complete a series of scenarios and resolve technical problems that will test their expertise in an Oracle9i Database environment. Participants are scored on their ability to successfully complete the assigned tasks.

The practicum is conducted at an Oracle University facility in each global region. Contact your local Oracle University representative to find the Practicum location nearest you. Visit [http://www.oracle.com/education/contact\\_info.html](http://www.oracle.com/education/contact_info.html) to view your local Oracle University contact information.

### Practicum Registration Prerequisites

Prior to registering for the Oracle Certified Master practicum, candidates must complete two requirements.

1. They must have completed their Oracle9i Database Administrator Certified Professional (OCP) credential.
2. They must have taken two advanced DBA courses from Oracle University. Advanced courses are taught by top Oracle University instructors and offer hands-on experience in topics that may be addressed during the practicum. Advanced courses that are offered in an instructor-led online format satisfy the requirement for candidacy to the OCM.

The following is a list of Oracle University courses that meet the advanced course requirement.

## Oracle9i Database OCM Practicum Course Prerequisite

The OCM Practicum candidates must attend two of the following courses listed below.

<b>Database Application</b>	
<b>Advanced PL/SQL</b>	<b>Oracle9i: Advanced PL/SQL</b>
<b>Oracle9i: Program with PL/SQL</b>	<b>Oracle9i: Implement Advanced Queing</b>
<b>Performance Management</b>	
<b>Oracle9i SQL Tuning Workshop</b>	<b>Oracle9i Database: Advanced Instance Tuning</b>
<b>Oracle8i SQL Statement Tuning Workshop</b>	
<b>Advanced Networking and Replication</b>	
<b>Online Net Services: Advanced Administration</b>	<b>Oracle8i Distributed Systems Part 2: Advanced Replication</b>
<b>Oracle9i Database: Advanced Replication</b>	<b>Administering the Oracle Internet Directory</b>
<b>Database and Data Management</b>	
<b>Oracle Enterprise Manager 9i</b>	<b>Oracle9i Database: Implementing Oracle Streams</b>
<b>Managing Oracle on Linux</b>	
<b>Advanced Oracle Security</b>	
<b>Oracle9i Database: Security</b>	
<b>High Availability</b>	
<b>Oracle9i: Data Guard Administration</b>	<b>Oracle9i: Real Application Clusters</b>
<b>Oracle8i: Parallel Server Implementation</b>	
<b>Data Warehouse and Large Scale Databases</b>	
<b>Oracle9i: Data Warehouse Administration</b>	<b>Oracle9i Database: Implement Partitioning</b>

## Oracle9i DBA Certified Master Practicum

An OCM candidate must successfully pass the Oracle9i DBA Certified Master practicum after completing the required OU advanced learning requirements listed on the previous page.

### Minimum Practicum Participant Skills

1. Proficiency in Oracle9i SQL
2. Working knowledge of Linux command language (United Linux 1.0) including:
  - a. Formatting and executing basic OS commands
  - b. Creating directories and navigating through directory structures
  - c. File management using copy, move, and delete
  - d. Linux environment text editors
  - e. Setting environment variables
3. Ability to locate and launch Oracle executables that include:
  - a. RMAN utility
  - b. Oracle Net Manager
  - c. Oracle Net Configuration Assistant
  - d. OEM
  - e. Listener utility
  - f. OMS
  - g. Oracle Password utility
  - h. Database Creation Assistant
4. Proficiency in using Oracle Enterprise Manager
5. Proficiency in using Oracle Net Manager and Oracle Net Configuration Assistant to configure networking
6. Advanced knowledge and use of Oracle9i (v9.0.1.3) Enterprise Server technology and features
7. Familiarity with navigating through online Oracle documentation

8. Proficiency in using Konqueror 2.2 browser software

### Practicum Environment

The practicum is conducted in a dedicated Oracle University classroom environment. An Oracle instructor is responsible for proctoring the event, distributing scenarios, and collecting results. Participants are randomly assigned a seat on the day of the event.

Participants are not allowed to use personal documentation or notes during the practicum nor are they permitted to collaborate with other participants. Cellular phones, pagers, and Personal Digital Assistants are not allowed in the practicum classroom.

Each participant is provided with a dedicated Linux server with Advanced Server 2.1 installed and the base Oracle server software. A complete online Oracle documentation set is available to each participant.

### Scoring

Participants are scored on their ability to complete the assigned tasks and to recover from various database failure scenarios. Information from each participant's environment is collected at various points during the practicum, and this information is used to determine the final score. Participants will be provided with their score within two weeks of completing the practicum. Upon attaining a successful score, participants are awarded the Oracle9i Database Administrator Certified Master credential. Participants who do not achieve a passing score are required to retake the entire practicum at a later date.

## **Practicum Objectives and Areas of Focus**

Review the Oracle9i Database Administrator Certified Master practicum objectives to gain insight into what to expect before completing the practicum. The objectives are located in the Test Content Checklist at the end of this guide.

# 3 *Preparing for Oracle® Database Tests*

Oracle recommends that you prepare for Oracle® Database exams by combining learning and training offerings from Oracle University with your own practice and experience. Start by reviewing the topics covered in the exam in the Test Content Checklist in this guide. Then look over the following preparation methods for a combination that suits your background.

## **Learn Oracle from Oracle**

There are a variety of options that allow complete flexibility to meet the needs of your schedule and budget. From intense in-class experiences with lots of hands-on labs to interactive online learning, OU offerings are the best way to prepare to become an Oracle Certified Associate or Oracle Certified Professional. These courses lay the foundation of knowledge you will need to pass the Oracle Certification tests and provide a venue for hands-on practice.

Refer to the certification requirements in Section 2 to chart your optimal preparation based on Oracle University training options. The corresponding Oracle University exam preparation course titles are the same as the Oracle Certification exam title.

Your local Oracle University representative can advise you on the best option. For more information, visit the Oracle University Web site at <http://www.oracle.com/education/>.

## **Preparing with Oracle University**

### **Instructor-Led in Class Training**

Build the in-depth knowledge and hands-on experience you need to succeed in your job role with our most popular and comprehensive training option. From in-class demonstrations led by expert Oracle University instructors, to realistic hands-on labs, instructor-led in class courses provide you a dynamic learning environment.

### **Instructor-Led Online Training**

Receive live instruction at your home or office, and save time and travel expenses with instructor-led online training. Expert Oracle instructors deliver the same quality training as in our classrooms during four hours of daily online instruction.

### **Self-Paced Online Training**

Learn at your own pace with a 90-day subscription to Oracle University courses delivered over the Internet. Benefit from a variety of content such as prerecorded instructor videos, demonstrations, product simulations, and quizzes. Interact with expert Oracle instructors, who will assist you online through the course material during office hours.

## **Self-Paced CD-ROM Training**

Study at your own pace with highly interactive Oracle University courses on CD-ROM. Reinforce your learning by using the latest in multimedia instruction, including video, animation, demonstrations, assessments, and hands-on practices. Self-paced CD-ROM courses offer a convenient, comprehensive, ongoing resource for you or your organization.

## **Additional Preparation Tools**

### **Practice Tests**

Oracle and Self Test Software have partnered to develop the highest quality practice tests, which are available to individuals seeking Oracle Certified Associate and Oracle Certified Professional status. To purchase practice tests, visit the OCP Web site at <http://www.oracle.com/education/certification/sts.html>.

## **Test Content Checklist**

Use the Test Content Checklist in this guide to identify all the test topics for which you must prepare. Oracle may make modifications to the Test Content Checklist, so visit the OCP Web site at <http://www.oracle.com/education/certification/objectives/> to download the latest version of this guide before attending your exam appointments.

# 4 *Registering for Your Tests*

Oracle Certification Program exams are offered at Oracle University Testing Centers and through Prometric, the world's largest provider of testing to the information technology industry. Many Oracle University Locations now also offer these exams, and serve as a convenient alternative for both preparation and exam writing at one facility. Follow the registration directions shown below for scheduling exams at an Oracle University Center or at an Authorized Prometric Testing Center (APTC).

All exams are delivered electronically by means of computer. A brief tutorial precedes each test to familiarize you with the test delivery system. You should attempt to answer every question in the exam because incomplete answers are scored as incorrect. Using a summary screen you can navigate throughout the exam, proceeding forward and back among questions.

## **Reviewing the Candidate Agreement**

Candidates pursuing Oracle Certification must accept the terms of the Oracle Certified Associate - Professional Candidate Agreement before taking the tests. You will be presented with the agreement on the screen before the test starts. You can also review the agreement before your appointment by visiting the Oracle Certification Program Web site at <http://www.oracle.com/education/certification/canagreemt.html>.

## **Scheduling Your Exam**

1. There are three convenient ways to register for exams:
  - a. Prepare and appear for test at Oracle University:  
Many countries throughout Europe, India, and Asia offer exam preparation assistance as well as the exams themselves at one convenient location. Visit the OCP Website, and you will find phone numbers for your local Oracle University Center on the Exam Registration Web page.  
(<http://www.oracle.com/education/certification/testreg.html>)
  - b. APTC Online Registration:  
Register online at  
<http://www.2test.com/>.
  - c. APTC Telephone Registration:  
Call the Prometric Regional Service Center (RSC) serving your country during normal business hours. (A list of RSCs is located on the last page of this guide.)
2. Make sure that you have both the number and title of the exam that you are registering for. Schedule your exam appointment Monday through Saturday during normal authorized Prometric testing center hours. Hours vary by location.



3. When you register, ask the Prometric customer service representative for a list of valid forms of identification that you will need to present when you take your exam. You will not be allowed to take the test without valid identification.
4. Regular exam fees are equivalent to US\$125 , plus any local taxes.

The exam fee is payable to Prometric by any major credit card (VISA, MasterCard, American Express, and Switch Cards) at the time of registration. All discounts must be applied at the time of paying your exam fee.

5. You must schedule a test at least 24 hours in advance.

### **Changing or Canceling Your Appointment**

To cancel or reschedule your test appointment, you must call the Prometric Regional Service Center. The cancellation policy by region is:

- The Americas: One business day in advance
- Asia Pacific: By midday (Sydney time) the previous business day
- EMEA: Two business days in advance
- Japan: Three business days in advance

Candidates who do not appear for the test or who cancel less than one business day before the test do not receive a refund.

# 5 *Taking Your Tests*

## **Taking Introduction to Oracle9i: SQL over the Internet**

The Introduction to Oracle9i: SQL exam is now delivered on the Internet in an effort to make taking this first exam easy and flexible, and cheap to the OCA candidate who is just getting started.

The exam can be taken anytime, from anywhere with a PC, current Web browser (see page 5 of this guide, Internet Delivered Tests, for the recommended browsers), and a recommended Internet connection of at least 33.6 Kps.

To take this online exam, visit the Oracle Certification Program Web site. There is no need for preregistration. Payment can be taken by credit card right on the Internet.

Your score will be available to you immediately after completion of the exam and submittal of your file for grading. If you become disconnected during your exam, you will be able to resume where you left off when you reconnect. However, the time clock will remain in effect. Internet exams have an additional window of 30 minutes to give you time to resolve technical problems.

## **Taking a Test at an Authorized Prometric Testing Center**

1. Arrive at the testing center at least 15 minutes before your scheduled appointment.
2. Sign the test log and present two forms of identification. One must be a government-issued photo

identification. Both forms of identification must contain your signature.

3. The test administrator will give you a brief orientation and escort you to a computer terminal where you will take the test. You are not allowed to bring papers, books, bags, or calculators into the room.
4. Remember to adhere to the requirements set forth in the Oracle Certification Candidate Agreement. You must agree to the terms and conditions in the agreement before completing any Oracle Certification exam. Any attempt to cheat, assist others, or remove exam content from the testing room will not be tolerated and may result in a zero score, disallowance of OCP credential, and even prosecution by law.

## **Obtaining Your Test Results**

You will receive your score report immediately after the test. Beta exam score reports are sent to candidates following analysis and scoring of the beta exam. Candidates completing a beta version of a test can expect their score reports 10–12 weeks following the beta period. Your results are automatically forwarded to Oracle following testing. Please keep a copy of all test reports for your records.

## **Retaking a Test**

Candidates must wait 30 days before retaking a failed exam. There are no exceptions to this policy.

If you do not pass an Oracle Certification exam on the first attempt, Oracle encourages you to use the diagnostic feedback supplied with the score report to review the areas that need further study.

If you receive a low score, an Oracle University training course may be appropriate for you to gain more knowledge. Otherwise, if you require skillset review only in a few areas, we recommend that you consult Oracle University Online Learning, where you will find each topic area available as a short course module. Most modules require only 45 minutes for completion. Visit Online Learning at <http://www.oracle.com/education/oln/>.

# 6 *After You Are Certified*

## **Receiving Your Oracle Certification Welcome Kit**

You will receive your Oracle Certified Associate or Oracle Certified Professional certificate by mail from Prometric within 30 days after successfully completing all the required exams and course requirements as applicable. You should use your certificate as verification of your Oracle Certification credential.

Oracle9i DBA OCP candidates who are required to meet the One Course Requirement will not receive their certificate until their course requirement has been verified. Oracle9i DBA OCP candidates may send their course information by completing the Web form. Select “Request Oracle9i OCP Credential” on the Oracle9i DBA OCP path Web page ([http://www.oracle.com/education/certification/dba9i\\_ocp.html](http://www.oracle.com/education/certification/dba9i_ocp.html)). View the One Course Requirement details on page 5 of this guide.

If you do not receive your Welcome Kit, send an email to [fulfillment@prometric.com](mailto:fulfillment@prometric.com) and provide your name, Prometric ID number, current mailing address, and daytime phone number.

## **Oracle Certified Professional Members Web Site**

Upon achieving your Oracle Certified Professional credential, you will receive information about how to obtain a copy of the OCP logo in your Welcome Kit. The logo may be used on business cards and resumes.

You will also receive a letter of congratulations from Oracle, which will indicate how you can begin to access the wealth of OCP benefits that await you. This will include the access login and password that you will need to enter the OCP member online community.

The OCP Members site is available only to Oracle Certified Professionals, not to Oracle Certified Associates.

## **Upgrade Your Certification to Oracle Certified Master**

Oracle Certified Professionals are highly recognized for their abilities to provide intermediate- to advanced-level DBA skills to the IT marketplace. To answer the growing need for more senior-level DBAs as well as consultants and other specialists, Oracle encourages those looking to advance their careers to consider the Oracle Certified Master Program. The OCM designation can help demonstrate that an Oracle professional is truly at the top of the field, and has added benefits, credibility, and tools to make these experts even more successful. To find out more, see the OCP Web site at <http://www.oracle.com/education/certification>.

## **Keeping Current with New Oracle Technology Releases**

Oracle is committed to keeping the Oracle Certification Program abreast with the latest technology. To take full benefit of your Oracle Certified Professional credential, you may find it advantageous to upgrade your certification to the latest release.

## Retirement of an OCP Track

When Oracle announces the retirement of a track, you will have at least six months to pass the remaining exams in the retiring track. If you do not upgrade your certification by the deadline, you will be required to complete all tests within the new track to obtain the latest credential. Consult the OCP Web site for current testing requirements.

## Updating Your Demographic Information

Visit the Prometric Web site at <http://register.prometric.com/> to update your demographic information.

Follow the steps below:

1. Log in to the site with your e-mail address and password. If you have never registered online before, click the link to set up your online account.
2. In the left navigation bar under Exam Services click Update Profile
3. You may update your mailing address, telephone numbers, and your e-mail address.
4. Click Next Your OCP Candidate information is now updated.

## **7** *Special Testing Opportunities*

### **Special Opportunities: Beta and Tryout Tests**

Oracle may offer beta or tryout versions of OCP tests as new and updated questions are developed. Beta and tryout tests are generally offered free or at a discount from the regular test price. Participating in beta and tryout tests is a good way to economize on your certification and to be among the first professionals to be certified on a new track or product release.

Beta score reports are sent to candidates following analysis and scoring of the beta test.

Visit the Oracle Certification Program Web site at

<http://www.oracle.com/education/certification/> to find beta and tryout opportunities. Oracle provides detailed descriptions of each beta and tryout offer to help you decide whether the tests are right for you.

**Visit the Oracle Certification Program Web site at <http://www.oracle.com/education/certification/>.**



## Test Content Checklists

*The following test content checklists show the objectives covered in the OCP exams.*



# Test Content Checklist

## *Introduction to Oracle: SQL® and PL/SQL™ Exam# 1Z0-001*

### **Overview of Relational Databases, SQL, and PL/SQL**

- ☐ Discuss the theoretical and physical aspects of a relational database
- ☐ Describe the Oracle implementation of the RDBMS and ORDBMS
- ☐ Describe the use and benefits of PL/SQL

### **Writing Basic SQL Statements**

- ☐ List the capabilities of SQL SELECT statements
- ☐ Execute a basic SELECT statement
- ☐ Differentiate between SQL statements and SQL\*Plus commands

### **Restricting and Sorting Data**

- ☐ Limit the rows retrieved by a query
- ☐ Sort the rows retrieved by a query

### **Single Row Functions**

- ☐ Describe the various types of functions available in SQL
- ☐ Use character, number, and date functions in SELECT statements
- ☐ Describe the use of conversion functions

### **Displaying Data from Multiple Tables**

- ☐ Write SELECT statements to access data from more than one table by using equality and nonequality joins
- ☐ View data that generally does not meet a join condition by using outer joins
- ☐ Join a table to itself

### **Aggregating Data Using Group Functions**

- ☐ Identify the available group functions
- ☐ Describe the use of group functions
- ☐ Group data by using the GROUP BY clause
- ☐ Include or exclude grouped rows by using the HAVING clause

### **Subqueries**

- ☐ Describe the types of problems that subqueries can solve
- ☐ Define subqueries
- ☐ List the types of subqueries
- ☐ Write single-row and multiple-row subqueries

### **Multiple-Column Subqueries**

- ☐ Write multiple-column subqueries
- ☐ Describe and explain the behavior of subqueries when null values are retrieved
- ☐ Write subqueries in a FROM clause

### **Producing Readable Output with SQL\*Plus**

- ☐ Produce queries that require an input variable
- ☐ Customize the SQL\*Plus environment
- ☐ Produce more readable output
- ☐ Create and execute script files
- ☐ Save customizations



## Exam #1Z0-001—Introduction to Oracle: SQL<sup>®</sup> and PL/SQL<sup>™</sup> (continued)

### Manipulating Data

- ☐ Describe each DML statement
- ☐ Insert rows into a table
- ☐ Update rows in a table
- ☐ Delete rows from a table
- ☐ Control transactions

### Creating and Managing Tables

- ☐ Describe the main database objects
- ☐ Create tables
- ☐ Describe the data types that can be used when specifying column definition
- ☐ Alter table definitions
- ☐ Drop, rename, and truncate tables

### Including Constraints

- ☐ Describe constraints
- ☐ Create and maintain constraints

### Creating Views

- ☐ Describe a view
- ☐ Create a view
- ☐ Retrieve data through a view
- ☐ Insert, update, and delete data through a view
- ☐ Drop a view

### Oracle Data Dictionary

- ☐ Describe the data dictionary views a user may access
- ☐ Query data from the data dictionary

### Other Database Objects

- ☐ Describe database objects and their uses
- ☐ Create, maintain, and use sequences
- ☐ Create and maintain indexes
- ☐ Create private and public synonyms

### Controlling User Access

- ☐ Create users
- ☐ Create roles to ease setup and maintenance of the security model
- ☐ Use the GRANT and REVOKE statements to grant and revoke object privileges

### Declaring Variables

- ☐ List the benefits of PL/SQL
- ☐ Describe the basic PL/SQL block and its sections
- ☐ Describe the significance of variables in PL/SQL
- ☐ Declare PL/SQL variables
- ☐ Execute a PL/SQL block

### Writing Executable Statements

- ☐ Describe the significance of the executable section
- ☐ Write statements in the executable section
- ☐ Describe the rules of nested blocks
- ☐ Execute and test a PL/SQL block
- ☐ Use coding conventions

## Exam #1Z0-001—Introduction to Oracle: SQL<sup>®</sup> and PL/SQL<sup>™</sup> (continued)

### Interacting with the Oracle Server

- ☐ Write a successful SELECT statement in PL/SQL
- ☐ Declare the data type and size of a PL/SQL variable dynamically
- ☐ Write DML statements in PL/SQL
- ☐ Control transactions in PL/SQL
- ☐ Determine the outcome of SQL DML statements

### Writing Control Structures

- ☐ Identify the uses and types of control structures
- ☐ Construct an IF statement
- ☐ Construct and identify different loop statements
- ☐ Use logic tables
- ☐ Control block flow by using nested loops and labels

### Working with Composite Data Types

- ☐ Create user-defined PL/SQL records
- ☐ Create a record with the %ROWTYPE attribute
- ☐ Create a PL/SQL table
- ☐ Create a PL/SQL table of records
- ☐ Describe the difference between records, tables, and tables of records

### Writing Explicit Cursors

- ☐ Distinguish between an implicit and an explicit cursor
- ☐ Use a PL/SQL record variable
- ☐ Write a cursor FOR loop

### Advanced Explicit Cursor Concepts

- ☐ Write a cursor that uses parameters
- ☐ Determine when a FOR UPDATE clause in a cursor is required
- ☐ Determine when to use the WHERE CURRENT OF clause
- ☐ Write a cursor that uses a subquery

### Handling Exceptions

- ☐ Define PL/SQL exceptions
- ☐ Recognize unhandled exceptions
- ☐ List and use different types of PL/SQL exception handlers
- ☐ Trap unanticipated errors
- ☐ Describe the effect of exception propagation in nested blocks
- ☐ Customize PL/SQL exception message



# Test Content Checklist

## *Introduction to Oracle®: SQL® Exam# 1Z0-007*

### **Writing Basic SQL Select Statements**

- ☐ List the capabilities of SQL SELECT statements
- ☐ Execute a basic SELECT statement
- ☐ Differentiate between SQL statements and iSQL\*Plus commands

### **Restricting and Sorting Data**

- ☐ Limit the rows retrieved by a query
- ☐ Sort the rows retrieved by a query

### **Single-Row Functions**

- ☐ Describe various types of functions available in SQL
- ☐ Use character, number, and date functions in SELECT statements
- ☐ Use conversion functions

### **Displaying Data from Multiple Tables**

- ☐ Write SELECT statements to access data from more than one table by using equality and nonequality joins
- ☐ View data that generally does not meet a join condition by using outer joins
- ☐ Join a table to itself by using a self-join

### **Aggregating Data Using Group Functions**

- ☐ Identify the available group functions
- ☐ Use group functions
- ☐ Group data by using the GROUP BY clause
- ☐ Include or exclude grouped rows by using the HAVING clause

### **Subqueries**

- ☐ Describe the types of problems that subqueries can solve
- ☐ Define subqueries
- ☐ List the types of subqueries
- ☐ Write single-row and multiple-row subqueries

### **Producing Readable Output with iSQL\*Plus**

- ☐ Produce queries that require a substitution variable
- ☐ Produce more readable output
- ☐ Create and execute script file

### **Manipulating Data**

- ☐ Describe each DML statement
- ☐ Insert rows into a table
- ☐ Update rows in a table
- ☐ Delete rows from a table
- ☐ Merge rows in a table
- ☐ Control transactions

## Exam #1Z0-007—Introduction to Oracle9i: SQL<sup>®</sup> (continued)

### Creating and Managing Tables

- ☐ Describe the main database objects
- ☐ Create tables
- ☐ Describe the data types that can be used when specifying column definition
- ☐ Alter table definitions
- ☐ Drop, rename, and truncate tables

### Including Constraints

- ☐ Describe constraints
- ☐ Create and maintain constraints

### Creating Views

- ☐ Describe a view
- ☐ Create, alter the definition of, and drop a view
- ☐ Retrieve data through a view
- ☐ Insert, update, and delete data through a view

### Creating Other Database Objects

- ☐ Create, maintain, and use sequences
- ☐ Create and maintain indexes
- ☐ Create private and public synonyms



# Test Content Checklist

## *Oracle® Database: Fundamentals I* *Exam# 1Z0-031*

### **Oracle Architectural Components**

- ☐ Describe the Oracle architecture and its main components
- ☐ Describe the structures involved in connecting a user to an Oracle instance

### **Getting Started with the Oracle Server**

- ☐ Identify common database administrative tools available to a DBA
- ☐ Identify the features of Oracle Universal Installer
- ☐ Explain the benefits of Optimal Flexible Architecture
- ☐ Set up password file authentication
- ☐ List the main components of Oracle Enterprise Manager and their uses

### **Managing an Oracle Instance**

- ☐ Create and manage initialization parameter files
- ☐ Configure OMF
- ☐ Start up and shut down an instance
- ☐ Monitor the use of diagnostic files

### **Creating a Database**

- ☐ Describe the prerequisites necessary for database creation
- ☐ Create a database by using Oracle Database Configuration Assistant
- ☐ Create a database manually

### **Data Dictionary Content and Usage**

- ☐ Identify key data dictionary components
- ☐ Identify the contents and uses of the data dictionary

- ☐ Query the data dictionary

### **Maintaining the Control File**

- ☐ Explain the uses of the control file
- ☐ Describe the contents of the control file
- ☐ Multiplex and manage the control files
- ☐ Obtain control file information
- ☐ Manage the control file with Oracle Managed Files

### **Maintaining Redo Log Files**

- ☐ Explain the purpose of online redo log files
- ☐ Describe the structure of online redo log files
- ☐ Control log switches and checkpoints
- ☐ Multiplex and maintain online redo log files
- ☐ Manage online redo log files with OMF

## Exam #1Z0-031—Oracle9i Database: Fundamentals I (continued)

### Managing Tablespaces and Data Files

- ☐ Describe the logical structure of the database
- ☐ Create tablespaces
- ☐ Change the size of tablespaces
- ☐ Allocate space for temporary segments
- ☐ Change the status of tablespaces
- ☐ Change the storage settings of tablespaces
- ☐ Implement Oracle Managed Files

### Storage Structure and Relationships

- ☐ Describe the logical structure of tablespaces within the database
- ☐ List the segment types and their uses
- ☐ List the keywords that control block space usage
- ☐ Obtain information about storage structures from the data dictionary

### Managing Undo Data

- ☐ Describe the logical structure of segments within the database
- ☐ Describe the purpose of undo data
- ☐ Implement Automatic Undo Management

### Managing Tables

- ☐ Identify the various methods of storing data
- ☐ Describe Oracle data types
- ☐ Distinguish between an extended versus a restricted ROWID
- ☐ Describe the structure of a row
- ☐ Create regular and temporary tables

- ☐ Manage storage structures within a table
- ☐ Reorganize, truncate, and drop a table
- ☐ Drop a column within a table

### Managing Indexes

- ☐ Describe the different types of indexes and their uses
- ☐ Create various types of indexes
- ☐ Reorganize indexes
- ☐ Drop indexes
- ☐ Get index information from the data dictionary

- ☐ Monitor the usage of an index

### Maintaining Data Integrity

- ☐ Implement data integrity constraints
- ☐ Maintain integrity constraints
- ☐ Obtain constraint information from the data dictionary

### Managing Password Security and Resources

- ☐ Manage passwords by using profiles
- ☐ Administer profiles
- ☐ Control use of resources by using profiles
- ☐ Obtain information about profiles, password management, and resources

### Managing Users

- ☐ Create new database users
- ☐ Alter and drop existing database users
- ☐ Monitor information about existing users

## Exam #1Z0-031—Oracle9i Database: Fundamentals I (continued)

### Managing Privileges

- ☐ Identify system and object privileges
- ☐ Grant and revoke privileges
- ☐ Identify auditing capabilities

### Managing Roles

- ☐ Create and modify roles
- ☐ Control availability of roles
- ☐ Remove roles
- ☐ Use predefined roles
- ☐ Display role information from the data dictionary

### Using Globalization Support

- ☐ Choose a database character set and national character set for a database
- ☐ Specify the language-dependent behavior by using initialization parameters, environment variables, and the ALTER SESSION command
- ☐ Use the different types of National Language Support (NLS) parameters
- ☐ Explain the influence on language-dependent application behavior
- ☐ Obtain information about Globalization Support usage



# Test Content Checklist

## *Oracle9i Database: Fundamentals II* *Exam# 1Z0-032*

### Networking Overview

- ☐ Explain solutions included with Oracle9i for managing complex networks
- ☐ Describe Oracle networking add-on solutions

### Basic Oracle Net Architecture

- ☐ Explain the key components of the Oracle Net layered architecture
- ☐ Explain the Oracle Net Services role in client server connections
- ☐ Describe how Web-client connections are established through Oracle networking products

### Basic Net Server-Side Configuration

- ☐ Identify how the listener responds to incoming connections
- ☐ Configure the listener by using Oracle Net Manager
- ☐ Control the listener by using Listener Control Utility (lsnrctl)
- ☐ Describe Dynamic Service Registration
- ☐ Configure the listener for IIOP and HTTP connections

### Basic Oracle Net Services Client-Side Configuration

- ☐ Describe the difference between host naming and local service name resolution
- ☐ Use Oracle Net Configuration Assistant to configure: Host Naming, Local naming method, Net service names

- ☐ Perform simple connection troubleshooting

### Usage and Configuration of Oracle Shared Server

- ☐ Identify the components of Oracle Shared Server
- ☐ Describe the Oracle Shared Server architecture
- ☐ Configure Oracle Shared Server
- ☐ Identify and explain the usefulness of related dictionary views

### Backup and Recovery Overview

- ☐ Describe the basics of database backup, restore, and recovery
- ☐ List the types of failure that may occur in an Oracle environment
- ☐ Define a backup and recovery strategy

### Instance and Media Recovery Structures

- ☐ Describe the Oracle processes, memory structures, and files relating to recovery
- ☐ Identify the importance of checkpoints, redo log files, and archived log files
- ☐ Describe ways to tune instance recovery



## Exam #1Z0-032—Oracle9i Database: Fundamentals II (continued)

### Configuring the Database Archiving Mode

- ☐ Describe the differences between Archivelog and Noarchivelog modes
- ☐ Configure a database for Archivelog mode
- ☐ Enable automatic archiving
- ☐ Perform manual archiving of logs
- ☐ Configure multiple archive processes
- ☐ Configure multiple destinations, including remote destinations

### Oracle Recovery Manager Overview and Configuration

- ☐ Identify the features and components of RMAN
- ☐ Describe the RMAN repository and control file usage
- ☐ Describe channel allocation
- ☐ Describe the Media Management Library interface
- ☐ Connect to RMAN without the recovery catalog
- ☐ Configure the RMAN environment

### User-Managed Backups

- ☐ Describe user-managed backup and recovery operations
- ☐ Discuss backup issues associated with read tablespaces
- ☐ Perform closed database backups
- ☐ Perform open database backups
- ☐ Back up the control file
- ☐ Perform cleanup after a failed online backup
- ☐ Use the DBVERIFY utility to detect corruption

### RMAN Backups

- ☐ Identify types of RMAN-specific backups
- ☐ Use the RMAN BACKUP command to create sets
- ☐ Back up the control file
- ☐ Back up the archived redo log files
- ☐ Use the RMAN COPY command to create image copies

### User-Managed Complete Recovery

- ☐ Describe media recovery
- ☐ Perform recovery in Noarchivelog mode
- ☐ Perform complete recovery in Archivelog mode
- ☐ Restore data files to different locations
- ☐ Relocate and recover a tablespace by using archived redo log files
- ☐ Describe read-only tablespace recovery

### RMAN Complete Recovery

- ☐ Describe the use of RMAN for restoration and recovery
- ☐ Perform recovery in Noarchivelog mode
- ☐ Perform complete recovery in Archivelog mode
- ☐ Restore data files to different locations
- ☐ Relocate and recover a tablespace by using archived redo log files

## Exam #1Z0-032—Oracle9i Database: Fundamentals II (continued)

### User-Managed Incomplete Recovery

- ☐ Describe the steps of incomplete recovery
- ☐ Perform an incomplete database recovery
- ☐ Identify the loss of current online redo log files

### RMAN Incomplete Recovery

- ☐ Perform an incomplete database recovery by using UNTIL TIME
- ☐ Perform an incomplete database recovery by using UNTIL SEQUENCE

### RMAN Maintenance

- ☐ Perform cross-checking of backups and copies
- ☐ Update the repository when backups have been deleted
- ☐ Change the availability status of backups and copies
- ☐ Make a backup or copy exempt from the retention policy
- ☐ Catalog backups made with operating system commands

### Recovery Catalog Creation and Maintenance

- ☐ Describe the contents of the recovery catalog
- ☐ Create the recovery catalog
- ☐ Maintain the recovery catalog by using RMAN commands
- ☐ Use RMAN to register, resynchronize, and reset a database
- ☐ Query the recovery catalog to generate reports and lists
- ☐ Create, store, and run scripts
- ☐ Describe methods for backing up and recovering the recovery catalog

### Transporting Data Between Databases

- ☐ Describe the uses of the Export and Import utilities
- ☐ Describe Export and Import concepts and structures
- ☐ Perform simple Export and Import operations
- ☐ List guidelines for using Export and Import

### Loading Data into a Database

- ☐ Demonstrate the usage of direct-load insert operations
- ☐ Describe the usage of SQL\*Loader
- ☐ Perform basic SQL\*Loader operations
- ☐ List guidelines for using SQL\*Loader and direct-load insert



# Test Content Checklist

## *Oracle9i Database: Performance Tuning* *Exam# 1Z0-033*

### **Overview of Oracle9i Performance Tuning**

- ☐ Describe the roles associated with the database tuning process
- ☐ Describe the dependency between tuning in different development phases
- ☐ Describe service-level agreements
- ☐ Describe the tuning goals
- ☐ Describe the most common tuning problems
- ☐ Describe the tuning considerations during development and production
- ☐ Describe performance and safety tradeoffs

### **Diagnostic and Tuning Tools**

- ☐ Explain how the alert.log file is used
- ☐ Explain how background trace files are used
- ☐ Explain how user trace files are used
- ☐ Describe the statistics kept in the dynamic performance views
- ☐ Explain how StatsPack collects statistics
- ☐ Collect statistics by using STATSPACK
- ☐ Collect statistics using Enterprise Manager
- ☐ Use other tuning tools

### **Sizing the Shared Pool**

- ☐ Measure and tune the library cache hit ratio
- ☐ Measure and tune the dictionary cache hit ratio

- ☐ Size and pin objects in the shared pool
- ☐ Tune the shared pool reserve space
- ☐ Describe the UGA and session memory considerations
- ☐ Explain other tuning issues related to the shared pool
- ☐ Set the large pool

### **Sizing the Buffer Cache**

- ☐ Describe how the buffer cache is used by different Oracle processes
- ☐ Describe the tuning issues related to the buffer cache
- ☐ Monitor the use of the buffer cache, also use of the different pools within the buffer cache
- ☐ Implement dynamic SGA allocation
- ☐ Set the DB\_CACHE\_ADVICE parameter
- ☐ Create and size multiple buffer pools
- ☐ Detect and resolve free list contention

### **Sizing Other SGA Structures**

- ☐ Monitor and size the redo log buffer
- ☐ Monitor and size the java pool
- ☐ Control the amount of Java session memory used by a session
- ☐ Configure the instance to use I/O Slaves
- ☐ Configure and use multiple DBW processors

## Exam #1Z0-033—Oracle9i Database: Performance Tuning (continued)

### Database Configuration and I/O Issues

- ☐ Explain the advantages of distributing different Oracle file types
- ☐ Describe reasons for partitioning data in tablespaces
- ☐ Diagnose tablespace usage problems
- ☐ Describe how checkpoints work
- ☐ Monitor and tune checkpoints
- ☐ Monitor and tune redo logs

### Optimize Sort Operations

- ☐ Describe how sorts are performed
- ☐ Identify the SQL operations that require sorting
- ☐ Differentiate between disk and memory sorts
- ☐ Create and monitor temporary tablespaces
- ☐ Reduce total sorts and disk sorts
- ☐ Determine the number of sorts performed in memory
- ☐ Set old and new sort parameters

### Diagnosing Contention for Latches

- ☐ Describe the purpose of latches
- ☐ Describe the different types of latch request
- ☐ Describe contention for latches
- ☐ Tune the appropriate resources to minimize latch contention

### Monitoring and Detecting Lock Contention

- ☐ Define levels of locking
- ☐ Describe possible causes of contention
- ☐ Use Oracle utilities to detect lock contention
- ☐ Resolve contention in an emergency
- ☐ Prevent locking problems
- ☐ Recognize Oracle errors arising from deadlocks

### Tuning Oracle Shared Server

- ☐ Identify issues associated with managing users in Oracle Shared Server processes
- ☐ Diagnose and resolve performance issues with Oracle Shared Server processes
- ☐ Configure the Oracle Shared Server environment to optimize performance

### Application Tuning

- ☐ Describe the role of the DBA in tuning Applications
- ☐ Explain different storage structures, and why one storage structure may be preferred over another
- ☐ Explain the different types of indexes
- ☐ Explain Index Organized Tables
- ☐ Describe partitioning methods
- ☐ Explain the use of the DBMS\_STATS procedure
- ☐ Describe Materialized Views and the use of Query Rewrites
- ☐ List requirements for OLTP, DSS and Hybrid Systems

## Exam #1Z0-033—Oracle9i Database: Performance Tuning (continued)

### Using Oracle Blocks Efficiently

- ☐ Describe the correct usage of extents and Oracle blocks
- ☐ Explain space usage and the high water mark
- ☐ Determine the high water mark
- ☐ Describe the use of Oracle Block parameters
- ☐ Recover space from sparsely populated segments
- ☐ Describe and detect chaining and migration of Oracle blocks
- ☐ Perform Index Reorganization
- ☐ Monitor indexes to determine usage

### SQL Statement Tuning

- ☐ Describe how the Optimizer is used
- ☐ Explain the concept of plan stability
- ☐ Use Stored Outlines
- ☐ Describe how hints are used
- ☐ Use SQL Trace and TKPROF
- ☐ Collect statistics on indexes and tables
- ☐ Describe the use of histograms
- ☐ Copy statistics between databases

### Tuning the Operating System and Using Resources

- ☐ Describe different system architectures
- ☐ Describe the primary steps of OS tuning
- ☐ Identify similarities between OS and DB tuning
- ☐ Understand virtual memory and paging
- ☐ Explain the difference between a process and a thread
- ☐ Set up Database Resource Manager
- ☐ Assign users to Resource Manager Group
- ☐ Create resource plans within groups



# Test Content Checklist

## *Oracle9i DBA New Features for Oracle7.3 and Oracle8 OCPs - Exam# 1Z0-035*

### **Using Partitioning: Conceptual Overview**

- ☐ Describe the general partitioning rules.

### **Implementing Partitioned Indexes**

- ☐ Describe the different types of partitioned indexes

### **Supporting Commands and Guidelines for Partitioned Tables and Indexes**

- ☐ Describe restrictions that apply to certain operations

### **Parallelizing INSERT, UPDATE, and DELETE Operations**

- ☐ Enable parallel DML for a session

### **Identifying New ROWID Structures**

- ☐ Describe the new ROWID format

### **Managing Large Objects**

- ☐ Differentiate between internal and external LOBs

### **Implementing Oracle Advanced Queuing**

- ☐ Define the advanced queuing concepts

### **Using Additional New Features**

- ☐ Implement reverse key indexes
- ☐ Create and use index-organized tables

### **Introduction to Recovery Manager**

- ☐ Discuss the benefits of using Recovery Manager

- ☐ Identify the types of backups

### **Enhancements to Networking**

- ☐ Describe the concept of multiplexing
- ☐ Describe the concept of connection pooling

### **Implementing Password Management**

- ☐ Implement password aging and expiry

### **Optimizer and Query Improvements**

- ☐ Describe the features of optimizer plan stability
- ☐ Explain Top-N SQL queries
- ☐ Explain automatic parallel execution

### **Summary Management**

- ☐ Build and manage materialized views for Oracle Summaries
- ☐ Build and manage dimensions

### **Indexes and Index-Organized Tables**

- ☐ Describe a function-based index

### **Partitioning Improvements**

- ☐ Implement range, hash, and composite partitioning
- ☐ Describe partition-wise join

## Exam #1Z0-035—Oracle9i DBA New Features for Oracle7.3 and Oracle8 OCPs (continued)

### LOBs

- ☐ Define LOBs from a DBA perspective

### Oracle Universal Installer: Migration and Upgrade

- ☐ Upgrade a database to Oracle9i

### Database Resource Manager

- ☐ Explain the features of the database resource manager

### Manageability Enhancements

- ☐ Relocate and reorganize tables
- ☐ Remove unused columns from a table
- ☐ Define temporary tables

### Availability and Recoverability Enhancements

- ☐ Implement duplex and multiple archive logs
- ☐ Describe the functionality of LogMiner
- ☐ Implement fast-start fault recovery
- ☐ Manage corrupt block detection and repair

### SQL\*Plus, PL/SQL, and National Language Support Enhancements

- ☐ Describe the use of PL/SQL for Event Triggers, Autonomous Transactions, and Native Dynamic SQL

### Database Security

- ☐ Implement fine-grained access control

### Oracle Server Security

- ☐ Explain the new privileged connection options
- ☐ Describe the new security features and their application:
  - ☐ Secure Application Role, Global Context, Partitioned Fine-Grained Access Control, and Fine-Grained Auditing

### General High Availability Technology

- ☐ Describe fast-start time-based recovery limit
- ☐ Explain the new Oracle Flashback feature
- ☐ Describe Resumable Space Allocation
- ☐ Describe the new Export/Import features

### Oracle9i LogMiner Enhancements

- ☐ Explain LogMiner new features:
  - ☐ DDL statement support, dictionary staleness detection, ability to use an online dictionary, and ability to skip log corruptions

### Backup and Recovery

- ☐ Describe new RMAN manageability features:
  - ☐ New backup enhancements and new restore/recovery enhancements
- ☐ Describe new RMAN reliability features:
  - ☐ Block media recovery (BMR) and Trial Recovery
- ☐ Describe other RMAN improvements

## Exam #1Z0-035—Oracle9i DBA New Features for Oracle7.3 and Oracle8 OCPs (continued)

### Oracle9i Data Guard

- ☐ Explain the Oracle9i Data Guard architecture
- ☐ Configure the physical Standby Database in no-data-loss mode
- ☐ Initiate a Database Switchover Operation

### Database Resource Manager Enhancements

- ☐ Automatically detect long-running operations
- ☐ Automatically limit resource consumption other than CPU and DOP

### Online Operations

- ☐ Explain online index rebuild new functionality
- ☐ Describe online table redefinitions
- ☐ Explain online analyze validate
- ☐ Describe the use of the Server Parameter File (SPFILE)

### Segment Management (Part I)

- ☐ Use the automatic global index maintenance feature
- ☐ Explain the use of external tables
- ☐ Use the new LIST partitioning method
- ☐ Explain the basics of metadata Application Programming Interface

### Segment Management (Part II)

- ☐ Explain and use the new Automatic Segment-Space Management functionality
- ☐ Create and use bitmap join indexes

### Performance Improvements

- ☐ Use the indexes monitoring feature
- ☐ Describe the cursor-sharing enhancements
- ☐ Identify cached execution plans
- ☐ Gather system statistics

### Real Application Clusters

- ☐ Explain cache fusion
- ☐ Configure a shared server-side initialization parameter file

### File Management

- ☐ Explain the concept and benefits of Oracle-Managed Files (OMF)
- ☐ Create and manage OMF files
- ☐ Use SQL syntax to remove associated OS files when removing a non-OMF tablespace from the database
- ☐ Create and alter default temporary tablespaces

### Tablespace Management

- ☐ Explain the concept of Automatic Undo Management
- ☐ Create and maintain UNDO tablespaces
- ☐ Create and properly use multiple block sizes within a database

### Memory Management

- ☐ Set parameters to enable automatic and dynamic sizing of SQL working areas
- ☐ Use new columns and views to gather information regarding SQL execution memory management
- ☐ Describe the allocation and tracking of memory behind a dynamic SGA



## Exam #1Z0-035—Oracle9i DBA New Features for Oracle7.3 and Oracle8 OCPs (continued)

### Enterprise Manager Enhancements

- ☐ Generate HTML Reports
- ☐ Create user-defined events

### SQL Enhancements

- ☐ Use ISO/ANSI-standard SQL syntax, such as Joins, CASE expressions, NULLIF, COALESCE, scalar subqueries, MERGE, and analytical functions
- ☐ Identify other SQL enhancements, such as constraint enhancements, FOR UPDATE WAIT
- ☐ Use the enhancements to LOBs and PL/SQL

### Globalization Support

- ☐ Describe the new date and time data types
- ☐ Describe the Unicode enhancements
- ☐ Use the Character Set Scanner

### Database Workspaces

- ☐ Version-enable a table
- ☐ Create and assign a workspace



# Test Content Checklist

## *Oracle9i: New Features for Administrators* *Exam# 1Z0-030*

### Oracle Server Security

- ☐ Explain the new privileged connection options
- ☐ Describe the new security features and their application:
  - ☐ Secure Application Role, Global Context, Partitioned Fine-Grained Access Control, and Fine-Grained Auditing
- ☐ Describe the optional security products

### General High Availability Technology

- ☐ Explain new features designed to harden the database against unplanned down time
- ☐ Describe minimal I/O recovery
- ☐ Describe fast-start time-based recovery limit
- ☐ Explain the new Oracle Flashback feature
- ☐ Describe Resumable Space Allocation
- ☐ Describe the new Export/Import features

### Oracle9i LogMiner Enhancements

- ☐ Explain LogMiner new features:
  - ☐ DDL statement support, dictionary staleness detection, ability to use an online dictionary, and ability to skip log corruptions
- ☐ Describe the LogMiner Viewer

### Backup and Recovery

- ☐ Describe the new RMAN manageability features:
  - ☐ New backup enhancements and new restore/recovery enhancements
- ☐ Describe the new RMAN reliability features:
  - ☐ Block media recovery (BMR) and Trial Recovery
- ☐ Describe other RMAN improvements

### Oracle9i Data Guard

- ☐ Explain the Oracle9i Data Guard architecture
- ☐ Configure the physical Standby Database in no-data-loss mode
- ☐ Initiate a Database Switchover operation
- ☐ Set up automatic archive gaps detection
- ☐ Launch managed recovery mode in the background
- ☐ Apply a delay to redo application on the standby site

### Database Resource Manager Enhancements

- ☐ Automatically detect long-running operations
- ☐ Automatically limit resource consumption other than CPU and DOP

## Exam #1Z0-030—Oracle9i: New Features for Administrators (continued)

### Online Operations

- ☐ Discuss the new features designed to reduce planned down time
- ☐ Explain online index rebuild new functionality
- ☐ Explain online functionality for index-organized tables (IOTs)
- ☐ Describe online table redefinitions
- ☐ Explain online analyze validate
- ☐ Describe the use of the Server Parameter File (SPFILE)

### Segment Management (Part I)

- ☐ Use the automatic global index maintenance feature
- ☐ Explain the use of external tables
- ☐ Use the new LIST partitioning method
- ☐ Explain the basics of metadata Application Programming Interface

### Segment Management (Part II)

- ☐ Explain and use the new Automatic Segment-Space Management functionality
- ☐ Create and use bitmap join indexes

### Performance Improvements

- ☐ Use the indexes monitoring feature
- ☐ Describe skip scan index access
- ☐ Describe the cursor-sharing enhancements
- ☐ Identify cached execution plans
- ☐ Use the new first rows optimization
- ☐ Gather system statistics

### Real Application Clusters

- ☐ Explain cache fusion
- ☐ Configure a shared server-side initialization parameter file

### File Management

- ☐ Explain the concept and benefits of Oracle-Managed Files (OMF)
- ☐ Create and manage OMF files
- ☐ Use SQL syntax to remove associated OS files when removing a non-OMF tablespace from the database
- ☐ Create and alter default temporary tablespaces

### Tablespace Management

- ☐ Explain the concept of Automatic Undo Management
- ☐ Create and maintain UNDO tablespaces
- ☐ Create and properly use multiple block sizes within a database

### Memory Management

- ☐ Set parameters to enable automatic and dynamic sizing of SQL working areas
- ☐ Use new columns and views to gather information regarding SQL execution memory management
- ☐ Describe the allocation and tracking of memory behind a dynamic SGA

## Exam #1Z0-030—Oracle9i: New Features for Administrators (continued)

### Enterprise Manager Enhancements

- ☐ Describe the new look and feel of the Console
- ☐ Use the Console in the standalone mode
- ☐ Explain the Enterprise Manager functionality that supports Oracle9i Database features
- ☐ Generate HTML reports
- ☐ Create user-defined events

### SQL Enhancements

- ☐ Use ISO/ANSI standard SQL syntax, such as Joins, CASE expressions, NULLIF, COALESCE, scalar subqueries, MERGE, and analytical functions
- ☐ Identify other SQL enhancements, such as constraint enhancements, FOR UPDATE WAIT
- ☐ Use the enhancements to LOBs and PL/SQL

### Globalization Support

- ☐ Describe the new date and time data types
- ☐ Describe the Unicode enhancements
- ☐ Describe the enhanced sorting functionality
- ☐ Use the Character Set Scanner
- ☐ Explain the new byte and character semantics
- ☐ Use the Locale Builder

### Database Workspaces

- ☐ Identify the Workspace Manager role
- ☐ Version-enable a table
- ☐ Disable workspace participation for a table
- ☐ Create and assign a workspace
- ☐ Explain Import and Export considerations



# Test Content Checklist

## *Oracle8i: New Features for Administrators* *Exam# 1Z0-020*

### Java in the Database

- ☐ Describe Oracle Java components
- ☐ Describe JServer installation
- ☐ Tune JServer

### Optimizer and Query Improvements

- ☐ Describe the features of optimizer plan stability
- ☐ Describe the contents of the DBMS\_STATS package
- ☐ Explain Top-N SQL queries
- ☐ Identify new SQL keywords for computing subtotals
- ☐ Identify new sort processing options
- ☐ Explain automatic parallel execution

### Summary Management

- ☐ Build and manage Materialized views for Oracle Summaries
- ☐ Build and manage Dimensions

### Index and Index-Organized Tables

- ☐ Describe bitmap indexes improvements
- ☐ Describe a function-based index
- ☐ Build an index online
- ☐ Compute index statistics
- ☐ Describe an index-organized table (IOT)
- ☐ Explain logical ROWIDs
- ☐ Create multiple indexes on an IOT
- ☐ Explain how to partition an IOT

### Partitioning Improvements

- ☐ Revise the general partitioning concepts
- ☐ Implement range, hash, and composite partitioning
- ☐ Explain ENABLE/DISABLE ROW MOVEMENT
- ☐ Explain the new partition pruning capabilities
- ☐ Describe partition-wise join
- ☐ Review partition maintenance operations

### Object Relational Features and LOBs

- ☐ Define LOBs from a DBA perspective

### Oracle Universal Installer: Migration and Upgrade

- ☐ List the features of Oracle Universal Installer
- ☐ Migrate an Oracle7 database to Oracle8i
- ☐ Upgrade an Oracle8 database to Oracle8i

### Tablespace Management

- ☐ Manage locally managed tablespaces
- ☐ Manage transportable tablespaces
- ☐ Use read-only tablespace enhancements

## Exam #1Z0-020—Oracle8i: New Features for Administrators (continued)

### Database Resource Manager

- ☐ List the features of the database resource manager
- ☐ Limit the use of resources by using the database resource manager

### Manageability Enhancements

- ☐ Identify database limits
- ☐ Relocate and reorganize tables
- ☐ Remove unused columns from a table
- ☐ Define temporary tables
- ☐ Identify SQL\*Loader enhancements
- ☐ Monitor long-running operations
- ☐ Define new constraints features
- ☐ Define new Export/Import features

### Availability and Recoverability Enhancements

- ☐ Learn RMAN new features
- ☐ Implement duplex and multiple archive logs
- ☐ Set up a standby database in sustained recovery mode
- ☐ Start up a database for read operations
- ☐ Suspend database I/Os
- ☐ Describe the functionality of LogMiner
- ☐ Implement fast-start fault recovery
- ☐ Manage corrupt block detection and repair
- ☐ Describe the new possibility of dynamically changing the number of free lists

### Features of Net8

- ☐ Describe the new service naming scheme
- ☐ Explain automatic registration
- ☐ Describe load balancing
- ☐ Configure the network for JServer

### SQL\*Plus, PL/SQL, and National Language Support Enhancements

- ☐ Use SQL\*Plus for database management
- ☐ Describe the use of PL/SQL for Event Triggers, Autonomous Transactions, and Native Dynamic SQL

### Database Security

- ☐ Describe N-Tier authentication
- ☐ Describe invoker's rights security management
- ☐ Implement application context areas
- ☐ Implement fine-grained access control



# Test Content Checklist

## *Oracle8: New Features for Administrators* *Exam# 1Z0-010*

### **Using Partitioning: Conceptual Overview**

- ☐ Describe the benefits of partitioning
- ☐ Describe the general partitioning rules
- ☐ Describe the general partition restrictions

### **Implementing Partitioned Indexes**

- ☐ Describe the different types of partitioned indexes
- ☐ Plan an indexing strategy to support your applications
- ☐ Describe general partition restrictions

### **Supporting Commands and Guidelines for Partitioned Tables and Indexes**

- ☐ Explain the various commands to support partition management
- ☐ Describe restrictions that apply to certain operations
- ☐ Describe data dictionary tables that provide information on partitions

### **Parallelizing INSERT, UPDATE, and DELETE Operations**

- ☐ Describe the advantages of parallel data manipulation language (DML)
- ☐ Use hints and the parallel clause to set the degree of parallelism for a DML statement
- ☐ Execute parallel UPDATE and DELETE operations on partitioned tables
- ☐ Use the data dictionary views associated with parallel DML operations

### **Identifying New ROWID Structure**

- ☐ Describe the new ROWID format in Oracle8
- ☐ Use the new ROWID format in Oracle8
- ☐ Use the DBMS\_ROWID package

### **Defining Object Relational Features**

- ☐ Define an object relational database
- ☐ Describe the object concepts in Oracle8
- ☐ Create a basic object type
- ☐ Create and use an object view

## Exam #1Z0-010—Oracle8: New Features for Administrators (continued)

### Managing Large Objects

- ☐ Compare and contrast LONG and large object (LOB) data types
- ☐ Create and maintain LOB data types
- ☐ Differentiate between internal and external LOBs
- ☐ Utilize the DBMS\_LOB PL/SQL package

### Implementing Oracle Advanced Queuing

- ☐ Define the advanced queuing concepts
- ☐ Create and send messages by using the ENQUEUE procedure
- ☐ Administer the queues and queue tables

### Using Additional New Features

- ☐ Implement new types of constraint checking and enforcement
- ☐ Implement reverse key indexes
- ☐ Describe index-organized tables
- ☐ Create and use index-organized tables
- ☐ Identify the new security enhancements
- ☐ Configure a large pool System Global Area (SGA)
- ☐ Take advantage of National Language Support (NLS) enhancements
- ☐ Use external procedures
- ☐ Describe the Oracle8 raised size ceilings

### Introduction to Recovery Manager

- ☐ Describe the Recovery Manager architecture
- ☐ Discuss the benefits of using Recovery Manager
- ☐ Identify the types of backups
- ☐ Describe the use of the Recovery Manager catalog
- ☐ List associated data dictionary views

### Using Catalog Commands and Reports in Recovery Manager

- ☐ Maintain the contents of the recovery catalog
- ☐ Generate reports and lists from the recovery catalog
- ☐ Create and execute scripts to perform backup and recovery operations

### Using RUN Commands and Scripts in Recovery Manager

- ☐ Manage backup, copy, restore, and recovery operations by using Recovery Manager
- ☐ Create and execute scripts to perform backup and recovery operations



## Exam #1Z0-010—Oracle8: New Features for Administrators (continued)

### **Enhancements to Networking**

- ☐ Describe the concept of multiplexing
- ☐ Describe the concept of connection pooling
- ☐ Describe the new features of naming services
- ☐ Describe the connectivity features
- ☐ Describe the security features
- ☐ Describe the performance benefits
- ☐ Describe the possibilities of configuration and administration

### **Implementing Password Management**

- ☐ Implement account locking
- ☐ Implement password aging and expiry
- ☐ Implement password complexity verification

### **Migrating Server and Applications**

- ☐ Explain the Migration Utility
- ☐ Explain the steps to complete a migration to Oracle8
- ☐ Explain the migration options



# Test Content Checklist

## *Oracle9i DBA Certified Master Practicum*

### Overall Practicum Objectives

- ☐ Configure an Oracle9i database environment by creating the logical and physical structures required to support optimal performance
- ☐ Configure an Oracle9i network environment to support a variety of connection scenarios
- ☐ Install, configure, and use Oracle database management, tuning, and diagnostic tools
- ☐ Use Oracle9i enhanced data management features to support advanced replication, partitioning, and parallel operations
- ☐ Use Oracle9i tools to backup data while providing uninterrupted database availability
- ☐ Use Oracle9i tools to perform restore and complete recovery operations from any failure scenario
- ☐ Perform troubleshooting, analysis, and problem resolution to enhance database and instance performance

### Practicum Areas of Focus and Objectives

#### Database Configuration

- ☐ Determine and set sizing parameters for database segments
- ☐ Create and manage temporary, permanent, and undo tablespaces
- ☐ Stripe data files across multiple physical devices and locations
- ☐ Configure the database environment to support optimal data access performance
- ☐ Protect the database from loss of data from any failure scenario
- ☐ Create and manage database configuration files

#### Oracle Network Configuration

- ☐ Create and manage multiple network configuration files
- ☐ Configure the database instance to support shared server connections
- ☐ Set up network tracing
- ☐ Configure the network environment to efficiently manage user connections
- ☐ Manage Oracle network processes
- ☐ Configure the network environment to allow connections to multiple database

## Oracle9i DBA Certified Master Practicum (continued)

### Oracle Enterprise Manager Setup and Configuration

- ☐ Configure Oracle Enterprise Manager
- ☐ Create an OEM Repository
- ☐ Use OEM to modify a database configuration
- ☐ Configure OEM to manage database availability

### Database Availability

- ☐ Create a recovery catalog by using Recovery Manager
- ☐ Use Recovery Manager to perform database backups
- ☐ Use Recovery Manager to perform a complete database restore and recovery
- ☐ Configure the TNSNAMES.ORA file to support remote connections to a catalog database by using TCP
- ☐ Perform a complete recovery from any failure scenario

### Data Management

- ☐ Create and manage tablespaces to support database access activities
- ☐ Manage partitioning within a database environment
- ☐ Configure auditing within the database
- ☐ Provide users with access to data
- ☐ Provide access to data by using flashback

### Database Management

- ☐ Implement fine-grained security
- ☐ Generate table, index, column, and system statistics
- ☐ Manage the SGA.
- ☐ Manage new users
- ☐ Implement Replication

### Performance Management

- ☐ Collect instance and database statistics by using STATSPACK, UTLBSTAT/UTLESTAT, and OEM Packs
- ☐ Analyze statistics, and modify parameters to enhance performance
- ☐ Configure Resource Manager, and use it to manage queries
- ☐ Create and manage objects to accommodate different data access methods
- ☐ Analyze and tune query performance

### Standby Databases and Data Guard

- ☐ Create and utilize a standby database
- ☐ Add data to the primary database in preparation for transfer to a standby database
- ☐ Set up the standby database to use the log writer process to transfer the log stream to the standby database
- ☐ Configure the network environment to allow communication between the standby database and the primary database
- ☐ Open the standby database in a "read-only" state



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