

Oracle® Certified Professional Program Candidate Guide

Oracle8™ Certified Database Administrator Track

Oracle® Candidate Certification Guide

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Oracle Candidate Certification Guide

Oracle8 Certified Database Administrator Track



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Visit the OCP Web site at <http://education.oracle.com/certification>

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The Benefits of Oracle Certification

The demand for professionals in information technology (IT) 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 distinguish employees and prospective employees who have the solid foundation of skills needed for effective performance.

The Oracle Certified Professional (OCP) Program helps the IT industry make these distinctions by establishing a standard of competence in specific job roles. An Oracle Certification is a valuable, industry-recognized credential that signifies a proven level of knowledge and ability.

Benefits to the Technical Professional

The Oracle Certified Professional Program can give you a distinct advantage. An OCP Certification demonstrates that you have a solid understanding of a job role and the Oracle products used in that role. Being an Oracle Certified Professional can help raise your visibility and increase your access to the industry's most challenging opportunities.

OCPs have testified to the value of Oracle Certification¹:

- 97% said they have benefited from certification
- 89% said they gained more confidence in their Oracle expertise after becoming certified
- 96% would recommend the program to a professional colleague

Benefits to the IT Employer

The Oracle Certified Professional Program is also valuable to hiring managers who want to distinguish among candidates for critical IT positions. For companies that send employees through annual IT training, certification ensures a return on the training investment by validating the knowledge and understanding gained in training sessions. Companies can also combine certification with an employee development program to enhance employee loyalty and performance on the job.

Hiring certified professionals has a direct impact on a company's bottom line, as these conclusions from a research study by International Data Corporation² suggest:

- Certified professionals handled 40% more support calls per person, per day, than uncertified staff.
- Companies that advocated certification reported 49% less downtime than those that did not.
- For the majority of companies surveyed, the savings from increased effectiveness paid the costs of certification in fewer than nine months.

¹ Source: "Highlights From The 1999 Oracle Certified Professional Benefit Survey," *Market Analysis and Research Strategies*, 1999.

² Source: "Benefits and Productivity Gains Realized Through IT Certification," *International Data Corporation*, 1997.



Oracle8 Certified Database Administrator Track

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. They are on watch for ways to fine-tune day-to-day performance and to prevent unscheduled crises, such as a crashed database or hours of expensive downtime. This critical work requires a broad understanding of the architecture and processes of Oracle database, as well as plenty of hands-on experience solving problems. The best DBAs know they stand between optimal performance and an event that could bring their company to a standstill.

The Oracle8 Certified Database Administrator Track is a certification path that results in the award of a credential to proven performers in the role of database administrator. The track consists of five tests designed so you can translate your impressive knowledge and skills into a tangible, well-recognized professional certification.

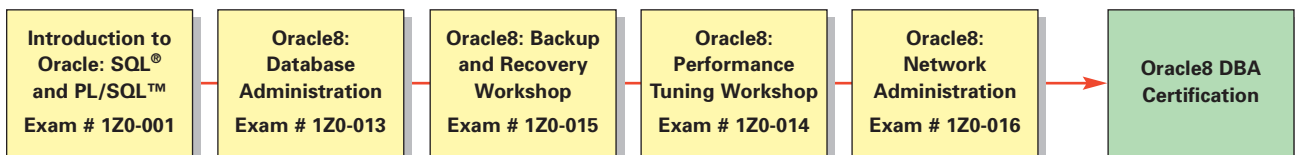
Candidate Qualifications

Most candidates for DBA certification combine up-to-date training with some level of on-the-job experience. There is no "typical" candidate.

If you are seeking certification to gain entry into the IT industry, you will need more than training to earn the credential. Many of the questions in the OCP tests are based on realistic job scenarios. In addition to the appropriate training, you will need hands-on experience with the software. Trial versions are included in most Oracle University training products.

Oracle8 Certified Database Administrator Track — Five Training Exams

In order to become an Oracle8 Certified Database Administrator, you must pass the following tests (in any order):



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Preparing for the Oracle8 Certified DBA Tests

Oracle recommends that you prepare for the Oracle8 Certified Database Administrator exams by combining offerings from Oracle University with practice and on-the-job experience. Start by reviewing the topics covered on the exam in the Test Content Checklist in this guide. Then look over the following preparation methods for a combination that suits your background.

Oracle University Preparation Tools

Instructor-led training or *technology-based training* offered by Oracle University are the best way to prepare to become an Oracle Certified Professional. These courses lay the foundation of knowledge you will need to pass the OCP tests.

Refer to the curriculum map on the following page to chart your optimal preparation based on Oracle University instructor-led training and technology-based training. Your local Oracle University representative can advise you on the best option. For more information, visit the Oracle University Web site at <http://education.oracle.com/globalsites>.

Preparing On Your Own

Experience is the best way to deepen your understanding of the topics covered in Oracle University courses. Oracle recommends that you extend your classroom learning by applying your new skills and knowledge either on the job or through practice and self-study.

Test Content Checklist

Use the Test Content Checklist to identify all of 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://education.oracle.com/certification> to download the latest version of this guide.

Additional Preparation Tools

■ Free Assessment Test

The Assessment Test is designed to give candidates a general sense of the exam. To download the free assessment test, visit the OCP Web site at: <http://education.oracle.com/certification>.

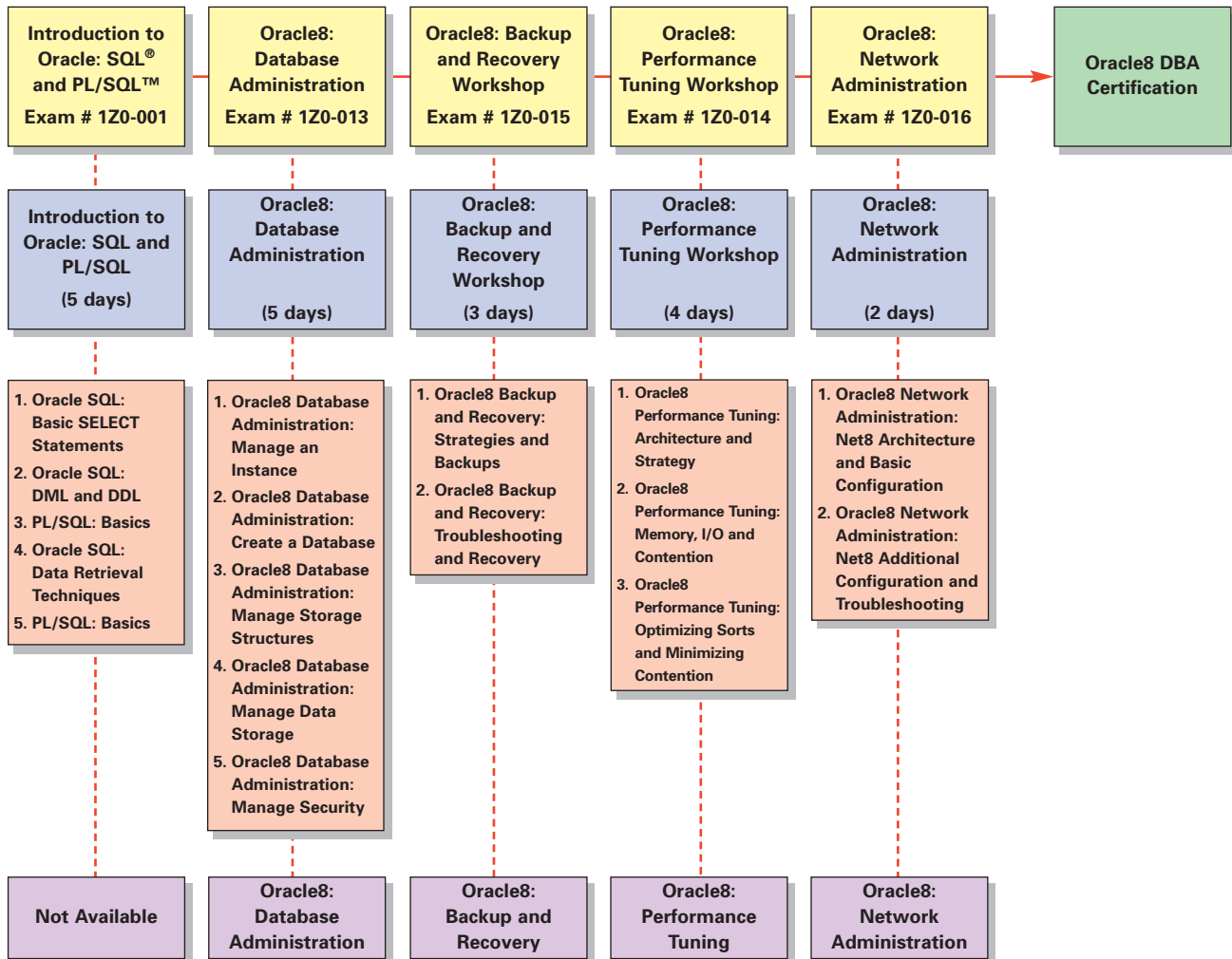
■ *OCP Exam Guides*

OCP Test Guides, published by Oracle Press, are for the experienced candidate who wishes to brush up on key concepts. These guides are designed to enhance your learning at Oracle Education. To order your guide, visit the Oracle Store Web site at <http://oraclestore.oracle.com>.

Oracle8 Certified Database Administrator Exams and Training

Listed below each exam are the Oracle University training methods.

Choose which method you prefer to prepare for the exams.



 = OCP Exam
 = Instructor-Led Training
 = Technology-Based Training
 = Oracle Simulator



Registering for Your Tests

The OCP tests are offered through Sylvan Prometric, the world's largest provider of testing to the information technology industry. Sylvan Prometric features more than 800 authorized Prometric testing centers worldwide.

All tests are delivered by computer and consist of multiple choice, free response, and interactive graphical questions. A brief tutorial precedes each test to familiarize you with the test delivery system. You should attempt to answer every question in the tests because incomplete answers are scored as incorrect.

Reviewing the Program Agreement

Candidates pursuing OCP certification must accept the terms of the Oracle Certified Professional Candidate Agreement before taking the tests.

You will be presented with the agreement on-screen before the exam starts. You can also review the agreement before your appointment by visiting the OCP Web site at <http://education.oracle.com/certification>.

Scheduling Your Test

1. There are two convenient ways to register for testing:
 - a. Register online at <http://www.2test.com> (Online registration is not available for beta exam registration.)
 - b. Call the Sylvan 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 test that you are registering for. The Sylvan Prometric customer service representative will ask for your name and contact information, as well as your preference as to date, time, and location for testing. Schedule your appointment to take the test at any available time Monday through Saturday during normal authorized Prometric testing center hours. Hours vary by location. Be sure to note when and where you are scheduled to take the test.
3. When you register, ask the Sylvan Prometric customer service representative for a list of valid forms of identification that you will need to present when you take your test. You will not be allowed to take the test without valid identification.

4. The test fee is payable to Sylvan Prometric by check or major credit card (VISA, MasterCard, or American Express) at the time of registration. If you pay by check, you cannot schedule your test until payment has been received by Sylvan Prometric.
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 Sylvan Prometric Regional Service Center. The cancellation policy by region is:

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

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



Taking Your Tests

On Test Day...

1. Arrive at the testing center at least 15 minutes prior to 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.

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. Your results are automatically forwarded to Oracle following testing. Please keep a copy of all test reports for your records.

Retaking a Test

If you wish to retake a test, you must wait at least 30 days. Oracle encourages you to make use of the diagnostic feedback supplied with the score report to review the areas that need further study. You may take a particular test up to three times in a twelve-month period.

Requests for exemption from this requirement must be made in writing to webteam@us.oracle.com. There is no discount price for retaking a test. The fee is the same as the initial test fee.



After You Are Certified

You will receive a certificate by mail from Sylvan Prometric within 30 days after successfully completing all tests in a certification track. You can use your certificate as verification that you are an Oracle Certified Professional.

If you do not receive your certificate, write to fulfillment@prometric.com and provide your name, candidate ID, and current mailing address. You can obtain a duplicate certificate for U.S. \$10.00 by contacting Sylvan Prometric.

In addition, you will receive information on how to obtain a copy of the OCP logo. The logo may be used on business cards and resumes.

Keeping Your Certification Current

Oracle is committed to keeping the OCP Program current with the latest technology. To ensure the value of your Oracle Certified Professional credential, you may upgrade your certification to the latest version.

Once Oracle announces the retirement of a track, you will have six months to complete the retiring track. If you do not upgrade your certification within six months, you will be required to complete all tests within the new track to obtain the latest credential. Consult the OCP Web site at <http://education.oracle.com/certification> or Sylvan Prometric for current testing requirements.





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 “What’s New” section of the OCP Web site at <http://education.oracle.com/certification> to find beta and tryout opportunities. Oracle provides detailed descriptions of each beta and tryout offer to help you decide if the tests are right for you.

Visit the OCP Web site at <http://education.oracle.com/certification>



Test Content Checklists

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



Test Content Checklist

Test 1 – 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 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 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 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

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 datatypes 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

Test 1 – Introduction to Oracle: SQL and PL/SQL, continued

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

Interacting with the Oracle Server

- Write a successful SELECT statement in PL/SQL
- Declare the datatype 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 using nested loops and labels

Working with Composite Datatypes

- 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 messages*

Note: Topics marked with (*) will appear in the test beginning April 2000.



Test Content Checklist

Test 2 – Oracle8: Database Administration (Exam# 1Z0-013)

Oracle Architectural Components

- List the structures involved in connecting a user to an Oracle Server
- List the stages in processing a query
- List the stages in processing a DML statement
- List the stages in processing COMMITs

Using Administration Tools

- Use the Server Manager Line Mode
- Identify administration applications supplied with the Oracle Enterprise Manager
- Use Oracle Enterprise Manager components

Managing an Oracle Instance

- Set up operating system and password file authentication
- Create the parameter file
- Start up an instance and opening the database
- Close a database and shutting down the instance
- Get and setting parameter values
- Manage sessions
- Monitor ALERT and trace files

Creating a Database

- Prepare the operating system
- Prepare the parameter file
- Create the database

Data Dictionary Views and Standard Packages

- Construct the data dictionary views
- Use the data dictionary
- Prepare the PL/SQL environment using the administrative scripts
- Administer stored procedures and packages

Maintaining the Control File

- Explain the uses of the control file
- Examine the contents of the control file
- Obtain the control file information
- Multiplex the control file

Maintaining Redo Log Files

- Explain the use of online redo log file
- Obtain log and archive information
- Control log switches and checkpoints
- Multiplex and maintain online redo log files
- Plan online redo log files
- Troubleshoot common redo log file problems

Managing Tablespaces and Datafiles

- Describe the logical structure of the database
- Create tablespaces

- Change the size of tablespaces using different methods
- Change the status and storage settings of tablespaces
- Relocate tablespaces
- Prepare necessary tablespaces

Storage Structure and Relationships

- List the different segment types and their uses
- Control the use of extents by segments
- State the use of block space utilization parameters by objects
- Obtain information about storage structures from the data dictionary
- Locate the segments by considering fragmentation and life-spans

Managing Rollback Segments

- Plan the number and size of rollback segments
- Create rollback segments using appropriate storage settings
- Maintain rollback segments
- Obtain rollback segment information from the data dictionary
- Troubleshoot rollback segment problems

Test 2 – Oracle8: Database Administration, continued

Managing Temporary Segments

- Distinguish the different types of temporary segments
- Allocate space for temporary segments within a database
- Obtain temporary segment information for a database or instance

Managing Tables

- Distinguish between different Oracle data types
- Create tables using appropriate storage settings
- Control the space used by tables
- Analyze tables to check integrity and migration
- Retrieve information about tables from the data dictionary
- Convert between different formats of ROWID

Managing Indexes

- List the different types of indexes and their uses
- Create B*tree and Bitmap indexes
- Reorganize indexes
- Drop indexes
- Get index information from the data dictionary

Maintaining Data Integrity

- Implement data integrity constraints and triggers
- Maintain integrity constraints and triggers

- Obtain constraint and trigger information from the data dictionary

Using Clusters and Index-Organized Tables

- Create and maintaining clusters
- Use index-organized tables
- Retrieve information about clusters and tables from the data dictionary

Loading and Reorganizing Data

- Load data using direct-load insert
- Load data into Oracle tables using SQL*Loader conventional and direct paths
- Reorganize data using export and import

Managing Users

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

Managing Profiles

- Create and assigning user profiles to users
- Control use of resources with profiles
- Alter and dropping profiles
- Administer passwords using profiles
- Obtain information about profiles, assigned limits, and password management

Managing Privileges

- Identify system and object privileges
- Grant and revoking privileges
- Control operating system or password file authentication

Managing Roles

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

Auditing

- Differentiate between database auditing and value-based auditing
- Use database auditing
- View enabled auditing options
- Retrieve and maintaining auditing information

Using National Language Support

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



Test Content Checklist

Test 3 – Oracle8: Backup and Recovery (Exam# 1Z0-015)

Backup and Recovery Considerations

- Define business, operational, and technical requirements for a backup and recovery strategy
- Identify the components of a disaster recovery plan
- Discuss the importance of testing a backup and recovery strategy

Oracle Recovery Structures and Processes

- Identify Oracle processes, file structures, and memory components as they pertain to backup and recovery
- Observe the importance of checkpoints, redo logs, and archives
- Identify the process of synchronizing files during a checkpoint
- Multiplex control files and redo logs

Oracle Backup and Recovery Configuration

- Identify recovery implications of operating in “Noarchive” mode
- Describe the differences between “Archivelog” mode and “Noarchivelog” mode
- Configure a database for “Archivelog” mode and automatic archiving
- Use init.ora parameters to duplex archive log files

Oracle Recovery Manager Overview

- Determine when to use RMAN
- List the uses of Backup Manager
- Identify the advantages of RMAN with and without a recovery catalog
- Create a recovery catalog
- Connect to Recovery Manager

Oracle Recovery Catalog Maintenance

- Use Recovery Manager to register, resynch, and reset a database
- Maintain the recovery catalog using change, delete, and catalog commands
- Query the recovery catalog to generate reports and lists
- Create and execute scripts to perform backup and recovery operations
- Create, store, and run scripts

Physical Backups without Oracle Recovery Manager

- Perform database backups using operating system commands
- Describe the recovery implications of closed and open backups
- Perform closed and open database backups
- Identify the backup implications of the “Logging” and “Nologging” modes

- Identify the different types of control file backups
- Discuss backup issues associated with “read only” tablespaces
- List the data dictionary views useful for backup operations

Physical Backups Using Oracle Recovery Manager

- Identify types of RMAN backups
- Describe backup concepts using RMAN
- Perform incremental and cumulative backups
- Troubleshoot backup problems
- View information from the data dictionary

Types of Failures and Troubleshooting

- List the types of failure that may occur in an Oracle database environment
- Describe the structures for instance and media recovery
- Use the DBVERIFY utility to validate the structure of an Oracle database file
- Configure checksum operations
- Use log and trace files to diagnose backup and recovery problems

Test 3 – Oracle8: Backup and Recovery, continued

Oracle Recovery Without Archiving

- Note the implications of media failure with a database in noarchivelog mode
- Recover a database in noarchivelog mode after media failure
- Restore files to a different location if media failure occurs
- Recover a database in noarchivelog mode using RMAN

Complete Oracle Recovery with Archiving

- Note the implications of instance failure with an archivelog database
- Describe a complete recovery operation
- Note the advantages and disadvantages of recovering an archivelog database
- Recover an archivelog database after media failure
- Recover an archivelog database using RMAN and Backup Manager

Incomplete Oracle Recovery with Archiving

- Identify the situations to use an incomplete recovery to recover the system
- Perform an incomplete database recovery
- Recover after losing current and active logs
- Use RMAN in an incomplete recovery
- Work with tablespace point-in-time recovery

Oracle Export and Import Utilities

- Use the Export utility to create a complete logical backup of a database object
- Use the Export utility to create an incremental backup of a database object
- Invoke the direct-path method export
- Use the Import utility to recover a database object

Additional Oracle Recovery Issues

- List methods for minimizing downtime
- Diagnose and recover from database corruption errors
- Reconstruct a lost or damaged controlfile
- List recovery issues associated with an offline or read-only tablespace
- Recover from the loss of a Recovery Catalog



Test Content Checklist

Test 4 – Oracle8: Performance Tuning Workshop (Exam# 1Z0-014)

Business Requirements and Tuning

- List the different roles associated with the tuning process
- Define the steps associated with the tuning process
- Identify different tuning goals

Oracle Alert, Trace Files and Events

- Identify the location and usefulness of the alert log file
- Identify the location and usefulness of the background and user process trace files
- Retrieve and display wait events
- Set events through OEM to be alerted about predefined situations

Utilities and Dynamic Performance Views

- Collect statistics using the dynamic troubleshooting and performance views
- Diagnose statistics using the UTBSTAT/UTLESTAT output report
- Use appropriate OEM tuning tools

Tuning Considerations for Different Applications

- Use the available data access methods to tune the logical design of the database
- Identify the demands of online transaction processing systems (OLTP)

- Identify the demands of decision support systems (DSS)
- Reconfigure systems on a temporary basis for particular needs

SQL Tuning

- Identify the roles of the DBA in application tuning
- Use star queries and hash joins to enhance data access operations
- Use optimizer modes to enhance SQL statement performance
- Use Oracle tools to diagnose SQL statement performance
- Track and register module usage for packages, procedures, and triggers
- Identify alternative SQL statements to enhance performance

Generic Operating System Tuning Issues and Oracle

- List the primary steps for operating system tuning
- Identify similarities between operating system and database tuning
- Explain the difference between a process and thread
- Describe paging and swapping

Tuning the Shared Pool

- Tune the library cache and data dictionary cache
- Measure the shared pool hit percentage
- Size the shared pool appropriately
- Pin objects in the shared pool
- Tune the shared pool reserved space
- List the UGA and session memory considerations

Tuning the Buffer Cache

- Describe how the buffer cache is managed
- Calculate the buffer cache hit ratio
- Examine the impact of adding or removing buffers
- Create Multiple Buffer Pools
- Size Multiple Buffer Pools
- Monitor buffer cache usage
- Make appropriate use of table caching

Tuning the Redo Log Buffer

- Determine if processes are waiting for space in the redo log buffer
- Size the redo log buffer appropriately
- Reduce redo operations

Test 4 – Oracle8: Performance Tuning Workshop, continued

Database Configuration and I/O Issues

- Diagnose inappropriate use of SYSTEM, RBS, TEMP, DATA and INDEX tablespaces
- Detect I/O problems
- Ensure that files are distributed to minimize I/O contention
- Use striping where appropriate
- Tune checkpoints
- Tune background process I/O

Using Oracle Blocks Efficiently

- Determine an appropriate block size
- Optimize space usage within blocks
- Detect and resolve row migration
- Monitor and tune indexes
- Appropriately size extents

Optimize Sort Operations

- Identify the SQL operations that require sorts
- Ensure that sorting is done in memory where possible
- Use direct writes for large sorts
- Allocate temporary space appropriately.

Rollback Segment Tuning

- Use dynamic performance views to check rollback segment performance
- Reconfigure and monitor rollback segments
- Define the number and size of rollback segments
- Allocate rollback segments to specific transactions

Monitoring and Detecting Lock Contention

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

Latch and Contention Issues

- Use Oracle tools to diagnose and resolve free list contention
- Identify specific latch contention situations
- Diagnose and resolve redo allocation and redo copy latch contention
- Diagnose and resolve LRU latch contention

Tuning with Oracle Expert

- List the features of Oracle Expert
- Create a tuning session
- Gather, view, and edit the input data
- Analyze the collected data using rules
- Review tuning recommendations
- Implement tuning recommendations



Test Content Checklist

Test 5 – Oracle8: Network Administration (Exam# 1Z0-016)

Overview

- Identify networking business trends and problems
- Describe Oracle's networking solutions

Basic Net8 Architecture

- Define the procedure by which Net8 establishes a server connection
- Identify the key components of Net8 architecture and their interaction

Basic Net8 Server Side Configuration

- Configure the listener using the Net8 Assistant
- Start the Net8 listener using Listener Control utility (LSNRCTL)
- Stop the Net8 listener using LSNRCTL
- Identify additional LSNRCTL commands
- Set up multiple listeners on the same node

Basic Net8 Client Side Configuration

- Establish a connection from the Net8 client side using the host-naming method
- Configure Net8 client side files and connecting using the local-naming method

- Use Net8 Assistant to define preferences on the client side Usage and Configuration of Oracle Names

Usage and Configuration of Oracle Names

- Configure centralized naming using Net8 assistant
- Store the network configuration in the local filesystem
- Store the network configuration in a region database
- Start and stop the Names server using Names Control utility

Usage and Configuration of Oracle Intelligent Agent for OEM

- Define the purpose of the Oracle Intelligent Agent
- Start and stop the Oracle Intelligent Agent using the Listener Control utility
- Identify the configuration files used to define the intelligent agent

Usage and Configuration of the Multi-Threaded Server

- Identify the components of the Multithreaded Server (MTS)
- Configure dispatchers using init.ora
- Configure shared servers using init.ora

- Specify the listener address for Multithreaded Server
- Set up connection pooling using the Multithreaded Server

Usage and Configuration of Connection Manager

- Identify the capabilities of Connection Manager
- Configure connection concentration
- Enable network access control
- Configure Multi-Protocol functionality

Troubleshoot the Network Environment

- Set logging and tracing parameters
- Analyze and troubleshoot network problems using log and trace files
- Format trace files using Trace Assistant

Security In the Network Environment

- Identify network security risks during data transmission
- Identify security features in Oracle Networking products
- Identify the features of the Advanced Networking Option
- Configure the components of the Advanced Networking Option



Regional Service Centers

Sydney, Australia Regional Service Center (direct dial#) +61.2.9414.3663
 Lelystad, Netherlands Regional Service Center (direct dial#) +31.320.23.9894
 Tokyo, Japan Regional Service Center (direct dial#) +813.3269.9620
 Latin America Regional Service Center (direct dial#) +1.410.843.4300
 North America Regional Service Center (toll free#) +1.800.891.EXAM (3926)

Sylvan Prometric Regional Service Centers

How to Use This Table

1. Locate your country on the table.
2. Call the Sylvan Prometric Regional Service Center (RSC) listed for your country. The RSC numbers are shown in the box above. If there is a toll-free number for your country to the Regional Service Center, it will be shown in the table below. For a list of testing sites in your country, please refer to <http://www.prometric.com>, Test Center Locator.

COUNTRY	RSC	TOLL FREE #
Algeria	Lelystad	
Argentina	Latin America	
Australia	Australia	1.800.806.944
Austria	Lelystad	0660.8582
Bahamas	Latin America	
Bangladesh	Australia	
Barbados	Latin America	
Belgium	Lelystad	0800.1.7414
Bermuda	Latin America	
Bolivia	Latin America	
Botswana	Lelystad	
Brazil	Latin America	000.817.965.5340
Brunei	Australia	
Bulgaria	Lelystad	
Cameroon	Lelystad	
Canada	North America	
Cayman Islands	Latin America	
Chile	Latin America	
China	Australia	1.0800.610.0036
Colombia	Latin America	980.13.0932
Costa Rica	Latin America	
Croatia	Lelystad	
Curacao, NA	Latin America	
Cyprus	Lelystad	
Czech Republic	Lelystad	
Denmark	Lelystad	
Dominican Republic	Latin America	
Ecuador	Latin America	
Egypt	Lelystad	
Estonia	Lelystad	
Fiji	Australia	
Finland	Lelystad	
France	Lelystad	01.428.93.122
Gabon	Lelystad	
Bahrain	Lelystad	
Georgian Republic	Lelystad	
Germany	Lelystad	0130.83.97.08
Ghana	Lelystad	
Great Britain	Lelystad	08.00.592.873
Greece	Lelystad	
Guam	Australia	1888.249.6392
Guatemala	Latin America	
Honduras	Latin America	
Hong Kong	Australia	800.96.8444
Hungary	Lelystad	
Iceland	Lelystad	
India	Australia	
Indonesia	Australia	001.803.61608
Ireland	Lelystad	1.800.626.104
Israel	Lelystad	
Italy	Lelystad	1.6787.8441
Ivory Coast	Lelystad	
Jamaica	Latin America	1.800.892.1978
Japan	Tokyo	0120.3877.37
Jordan	Lelystad	
Kazakhstan	Lelystad	
Kenya	Lelystad	
Kuwait	Lelystad	

COUNTRY	RSC	TOLL FREE #
Latvia	Lelystad	
Lebanon	Lelystad	
Lithuania	Lelystad	
Luxembourg	Lelystad	
Macau	Australia	
Macedonia	Lelystad	
Malaysia	Australia	1800.80.0508
Malta	Lelystad	
Martinique	Lelystad	
Mauritius	Lelystad	
Mexico	Latin America	95.800.332.1034
Morocco	Lelystad	
Namibia	Lelystad	
Nepal	Australia	
Netherlands	Lelystad	0800.022.7584
New Caledonia	Australia	
New Zealand	Australia	0800.44.1689
Nigeria	Lelystad	
Norway	Lelystad	
Oman	Lelystad	
Pakistan	Australia	
Panama	Latin America	
Papua New Guinea	Australia	
Paraguay	Latin America	
Peru	Latin America	
Philippines	Australia	1.800.1.611.0126
Poland	Lelystad	
Portugal	Lelystad	
Puerto Rico	Latin America	
Reunion Island	Lelystad	
Romania	Lelystad	
Russia	Lelystad	
Saudi Arabia	Lelystad	
Senegal	Lelystad	
Singapore	Australia	800.616.1132
Slovakia	Lelystad	
Slovenia	Lelystad	
South Africa	Lelystad	
South Korea	Australia	007.8611.3095
Spain	Lelystad	
Sri Lanka	Australia	
Suriname	Latin America	
Sweden	Lelystad	
Switzerland	Lelystad	0800.55.69.66
Taiwan	Australia	008.061.1141
Tanzania	Lelystad	
Thailand	Australia	01.800.611.2401
Trinidad & Tobago	Latin America	
Tunisia	Lelystad	
Turkey	Lelystad	
Ukraine	Lelystad	
United Arab Emirates	Lelystad	
United States	North America	1.800.891.3926
Uruguay	Latin America	
Venezuela	Latin America	
Vietnam	Australia	612.9414.3666
Yugoslavia	Lelystad	
Zimbabwe	Lelystad	

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