

Oracle 10g (OCP) Certification Preparation

Presented by Howard Horowitz

ORACLE

10g Certified Professional

10g, 9i, 8i

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Objective

Attendees will learn:

- *Strategies for preparing for the exam*
- *Resources used to prepare for each exam*
- *Format of the exams*
- *Overview of the 10g upgrade exam including a few of the less known, least used Oracle 10g features that are likely to be on the exam*

Part 1 – OCP Format, Structure, and Strategies

- **What is OCP?**

- *How is it measured in the industry?*
- *What are the benefits from being certified?*
- *What are the required steps for getting certified?*
- *What's the exam content / structure?*
- *How are the exams scored?*
- *Miscellaneous issues?*

What Is OCP ?

Oracle Certification was developed by Oracle and Sylvan Prometric. OCP is a valuable industry-recognized credential that signifies a proven level of knowledge and ability. An Oracle Certified Professional establishes a standard of competence in a specific job role.

*“Taking the time to get certified creates several positive career benefits and gives you a balance between **doing** and **learning** that is so desperately needed in information technology.” / By [Rich Niemiec](#) - [March/April 2002 Oracle Magazine](#) **“Getting Good At What You Do”***

OCP Format, Structure, and Strategies

- *What is OCP?*
- **How is OCP measured in the industry?**
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How is OCP measured in the industry ?

- *Oracle Certified Professionals were found to earn the highest average salaries as compared to any other DBA or Developer professionals. Certification Magazine – <http://www.certmag.com>*
- *Hiring certified professionals has a direct impact on a company's bottom line, as these conclusions from a research study by International Data Corporation** suggest - http://www.oracle.com/education/certification/index.html?whycert_employer.html*
- *The results from the 2001 CRN Certification Study show Oracle certifications offer the best ROI for larger solution providers - <http://crn.channelsupersearch.com/news/CRN/30947.asp>*

OCP Format, Structure, and Strategies

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What are the benefits from being Certified?

- *Valuable to hiring managers*
- *Added credibility (**Excellent for contractors who sell narrow skill sets and must claim to be immediately productive.**)*
- *Increased job opportunities (OCP members site and other job sites). **Depends on economy (job market).***
- *Use of Oracle certification program logo for endorsement of your proven skill by Oracle corporation.*
- ***Invaluable experience as a result of preparing***
- *New tricks and skills to add to your arsenal*
- *Looks good on resume (**Receive certificate, logo, business card, and access to OCA and OCP websites**)*
- *Special discounts and offers (**35% off Oracle Press Books**)*
- ***Exposure to features you haven't used***

OCP Format, Structure, and Strategies

- *What is OCP?*
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- *What's the exam content / structure?*
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- *Miscellaneous issues?*

What are the required steps for getting certified?

- Select a track**
- *Prepare for the test*
- *Schedule the test*
- *Take each test in the track*

<http://www.oracle.com/education/certification/index.html?starthere.html>

Oracle University - (800) 529-0165

Tracks

(FOCUS ON)

Oracle Database Administrator:

- *Oracle 10g DBA (OCA, OCP, OCM)*
- *Oracle 9i DBA (OCA, OCP, OCM)*

Oracle 9i Forms Developer:

- *Oracle 9i PL/SQL Developer Certified Associate*
- *Oracle 9i Forms Developer Certified Professional*

Oracle Forms 6i Developer

Oracle Application Server 10g:

- *Oracle Application Server 10g Administrator Certified Associate (OCA)*
- *Oracle Application Server 10g Administrator Certified Professional (OCP)*

Oracle 9i Application Server:

- *Oracle9iAS Web Administrator Certified Associate*

What are the required steps for getting certified?

- Select a track*
- Prepare for the test**
- Schedule the test*
- Take each test in the track*

Prepare for the test

(Cost less /
More experience)

- Self-Test Software (250-300 questions) and SYBEX OCP Books. <http://www.selftestsoftware.com>. Software simulates actual exam. Might get lucky and find 1-2 questions on the actual exam. Cost: \$99 per practice exam, \$70 for the two books, \$125 to take the exam. Beta exams, Self-Test and OPN offer discounts <http://www.2test.com>. **Quickest route with 2-3+ years exp**

(Recommended)

- TBT's and Self-Test Software. Oracle Technical Based Training <http://www.oracle.com/education>. Cost: \$3000+ for the OCP bundle. Test voucher's included for each exam. **1-2 years exp**

(Cost more /
Less experience)

- Instructor based training and Self-Test Software. <http://www.oracle.com/education> Cost: \$3000 for each class. **0-1 years exp**
- Bottom line: depends on individual, experience, and availability

Prepare for the test

Ocp: Oracle 10g New Features For Administrators : Study Guide (Certification Study Guide)
by Bob Bryla, Biju Thomas

Amazon - Mostly 4-5 star customer reviews



OCP: Oracle 10g Certification Kit (1Z0-042 and 1Z0-043)

by Tim Buterbaugh, Chip Dawes, Bob Bryla, Doug Stuns, Joseph C. Johnson, Matthew Weishan



Additional resources used to prepare for the exams

- *Oracle University - (800) 529-0165*
- *Oracle Candidate Guide (test topics, preparation, and registration material).*
- *Oracle doc set – <http://technet.oracle.com/docs/content.html>*
- *<http://technet.oracle.com/training/content.html>*
- *<http://metalink.oracle.com>*
- *Sybex flash cards – Included on CD with Book (Palm V)*
- *<http://www.dbdomain.com>*
- *University Certificate programs (Columbia, NYU, Hofstra – includes student kit, ...etc)*

(Comes out of a separate budget)



What are the required steps for getting certified?

- Select a track*
- Prepare for the test*
- Schedule the test**
1800-891-exam or
<http://www.2test.com>
(Need 2 days notice)
- Take each test in the track*

What are the required steps for getting certified?

- Select a track*
- Prepare for the test*
- Schedule the test*
- Take each test in the track**

Database Administrator Exams

9i

Oracle 9i upgrade exam

- 1Z0-030 Oracle 9i Database: New features for Administrators (8i -> 9i)

(Recommended -
Used by most companies)

Oracle 9i DBA

- 1Z0-007 Oracle 9i: SQL (available online for \$90) – OCA
- 1Z0-031 Oracle 9i: Fundamentals I – OCA
- Attend an Approved Hands-On Training Course
- 1Z0-032 Oracle 9i: Fundamentals II - OCP
- 1Z0-033 Oracle 9i: Performance and Tuning – OCP

Oracle 9i Special Accreditation – Managing 9i on Linux

- 1Z0-036 Managing Oracle 9i on Linux

Oracle 9i DBA - (OCM) Oracle Certified Master 2 classes + OCM practicum exam. Select courses from the following website:

http://www.oracle.com/education/certification/index.html?dba9i_ocm.html

(Mo Money!)

Database Administrator Exams

10g

Oracle 10g upgrade exam

- 1Z0-040 Oracle 10g Database: New features for Administrators (9i -> 10g)
- 1Z1-045 Oracle 10g Database: New features for Administrators (8i -> 10g) - **BETA**

Oracle 10g DBA

- 1Z0-042 Oracle 10g: Administration I – **OCA**
- Attend an Approved Hands-On Training Course
- 1Z0-043 Oracle 10g: Administration II – **OCP**

Oracle 10g Special Accreditation

- Details to follow in the coming months

Oracle 10g DBA - (OCM) Oracle Certified Master 2 days hands-on OCM practicum exam.

- Details to follow in the coming months

(Mo Money!)

OCP Format, Structure, and Strategies

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- **What's the exam content / structure?**
- *How are the exams scored?*
- *Miscellaneous issues?*

Exam Content / Structure

- *Tests knowledge of Oracle concepts, **practical experience**, and training.*
- *Each exam consists of 60-80 multiple choice questions and given via computer.*
- *Allowed at least 90 minutes per exam.*
- *Incorrect answers are not subtracted from score. **Guess if you don't know the answer***
- *Receive your grade back as soon as the exam is finished.*
- ***Beware of trick questions: Recommended vs Required***

OCP Format, Structure, and Strategies

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- **How are the exams scored?**
- *Miscellaneous issues?*

How are the exams scored ?

On average, allowed up to 17 questions wrong to pass

TRACK	EXAM #	EXAM TITLE	TOTAL QUESTIONS	QUESTIONS CORRECT	PASSING %	DURATION
9i to 10g Upgrade Exam	1Z0-040	Oracle Database 10g New Features for Administrators	61	37	57%	1.5 hours
8i to 10g Upgrade Exam	1Z1-045	Oracle Database 10g New Features for Oracle8i OCPs	Not available at this time.	n/a	n/a	n/a
10g	1Z0-042	Oracle Database 10g: Administration I	75	49	65%	2 hours
10g	1Z1-043	Oracle Database 10g: Administration II	not yet available	n/a	n/a	n/a
8i to 9i Upgrade Exam	1Z0-030	Oracle9i Database: New Features for Administrators	53	37	70%	1.5 hours
7.3 to 9i Upgrade Exam	1Z0-035	Oracle9i DBA: New Features for Oracle7.3 and Oracle8 OCPs	84	58	69%	2 hours
9i, 8i	1Z0-007	Introduction to Oracle9i: SQL	57	40	71%	2 hours
8i, 9i	1Z0-001	Introduction to Oracle: SQL and PL/SQL	57	39	69%	2 hours
9i	1Z0-031	Oracle9i Database: Fundamentals I	60	44	74%	1.5 hours
9i	1Z0-032	Oracle9i Database: Fundamentals II	63	49	78%	1.5 hours
9i	1Z0-033	Oracle9i Database: Performance Tuning	59	38	65%	1.5 hours
9i	1Z0-036	Managing Oracle9i on Linux	59	34	57%	2 hours

OCP Format, Structure, and Strategies

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- **Miscellaneous issues?**

Miscellaneous Issues

- *Takes approx 1.5 – 3 months to get certified. (approx 40 hours preparation time per exam)*
- *Wait 30 days to retake exams*
- *No time limit between passing first and last exam. (Unless they announce retirement of track)*
- *Beta exams offer discounts*
- *Certification is valid for 6 months following a general announcement of re-certification. (Valid for approx 1.5 years) usually follows a new release, 8i, 9i, 10g...etc*

Oracle 10g (OCP) Certification Preparation (end of part 1)

ANY QUESTIONS ?

Presented by Howard Horowitz

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PROFESSIONAL

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Part 2 – What will I be expected to know for the exam?

10g New Features for Administrators

(You will be tested on the same material for Admin I and II)

10g New Features for Administrators

Automatic Shared Memory Management

8i method for automating SGA management

There is no method.

Workaround

You have to shutdown the database and manually change the values. This could be done programmatically with multiple init<SID>.ora files. Each file containing different values for the SGA parameters and automated via shell and Cron/Autosys.

10g New Features for Administrators

Automatic Shared Memory Management

9i method for automating SGA management.

Still not doable, however, you can dynamically change many of the values without shutting down the database.

Workaround

You have to use the alter system/session commands and also rely on the v\$shared_pool_advice and db_cache_advice views for proper settings. Manual / programmatic effort is required if the behavior of your database changes and SGA changes are needed. Cron and Autosys to automate.

10g New Features for Administrators

Automatic Shared Memory Management

10g method for automating SGA management.

```
alter system set sga_target='x';
```

10g New Features for Administrators

Automatic Shared Memory Management

sga_target -- This parameter is new in Oracle Database 10g and reflects the total size of memory an SGA can consume.

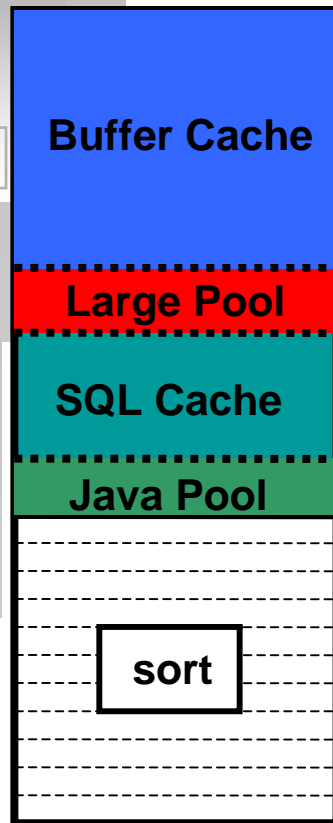
- Shared pool
- Buffer cache
- Java Pool
- Large Pool

10g New Features for Administrators

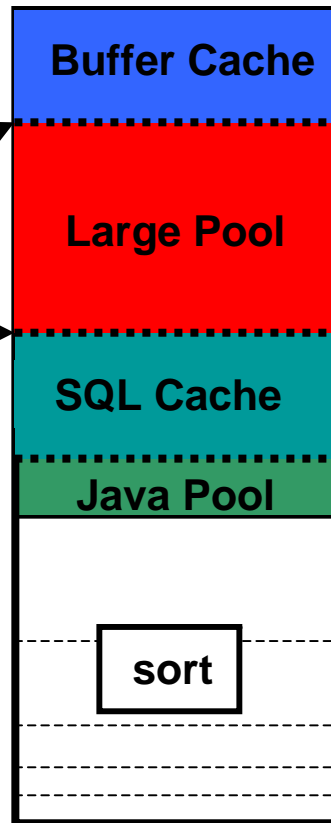
Automatic Shared Memory Management



Online Users



Large Batch Jobs



SGA Pool

PGA Pool

- Automatically adapts to workload changes
- Maximizes memory utilization
- Single Parameter makes it easier to use
- Helps eliminate out of memory errors
- Can help improve performance

10g New Features for Administrators

Automatic Shared Memory Management

- Requires an SPFILE and SGA_TARGET > 0. Can not exceed sga_max_size.
- Does not apply to the following parameters.
 - Log Buffer
 - Other Buffer Caches (KEEP/RECYCLE, other block sizes)
 - Streams Pool (new in Oracle Database 10g)
 - Fixed SGA and other internal allocations
- Can be adjusted via EM or command line.
- A new background process named Memory Manager (MMAN) manages the automatic shared memory.



You are using automatic shared memory management configuration. Which five initialization parameters will take their memory from the `SGA_TARGET` parameter, leaving the memory available for the automatically tuned parameters? (Choose five.)

- `DB_CACHE_SIZE`
- `STREAMS_POOL_SIZE`
- `JAVA_POOL_SIZE`
- `LARGE_POOL_SIZE`
- `DB_nk_CACHE_SIZE`
- `DB_RECYCLE_CACHE_SIZE`
- `LOG_BUFFER`
- `SHARED_POOL_SIZE`
- `DB_KEEP_CACHE_SIZE`

Explanation:

Automatic shared memory management simplifies the configuration of the System Global Area (SGA). You can enable the automatic shared memory management by setting the `SGA_TARGET` parameter. The `SGA_TARGET` parameter reflects the total size of the SGA. This parameter automatically manages the memory allocated for a specific set of individual components of the SGA. However, there are few components that take the memory from the `SGA_TARGET`, leaving the memory available for the automatically tuned parameters. These SGA components need to be manually sized. The following table displays the manually sized SGA components that use `SGA_TARGET` space:

Components of SGA	Initialization parameters
Log Buffer	<code>LOG_BUFFER</code>
KEEP and RECYCLE buffer caches	<code>DB_KEEP_CACHE_SIZE</code>



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Notes

You are using automatic shared memory management configuration. Which value is the default value of auto tuned parameters if the `SGA_TARGET` parameter is set to a non-zero value?

- 5 M
- 0 M
- 20 M
- 10 M

Explanation:

The default value of auto tuned parameters is 0 M if the `SGA_TARGET` parameter is set to a non-zero value. The size of auto tuned parameters, such as `SHARED_POOL_SIZE`, `LARGE_POOL_SIZE`, `JAVA_POOL_SIZE`, and `DB_CACHE_SIZE` are set to 0 if the `SGA_TARGET` parameter is set to a non-zero value.

The options 5 M, 10 M, and 20 M are incorrect and are not the default value assigned to the auto tuned parameters if the `SGA_TARGET` parameter is set to a non-zero value.

Objective:

Automatic Management

Sub-Objective:

Use Automatic Shared Memory Management

References:

1. Oracle University - *Oracle Database 10g: New Features for Administrators* - Automatic Management
2. OTN - http://download-west.oracle.com/docs/cd/B13789_01/server.101/b10739/create.htm#BABGCBHI

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10g New Features for Administrators

Upgrading the database

Definition

- *You can upgrade an earlier release of Oracle to Oracle 10g by using direct or indirect methods. Depending on the method will determine whether you use the manual and/or DBUA utility to perform the upgrade.*

Direct methods allow you to upgrade directly to 10g from the following Oracle releases:

- *Oracle 8 Release 8.0.6*
- *Oracle 8i Release 8.1.7*
- *Oracle 9i Release 1 – 9.0.1*
- *Oracle 9i Release 2 – 9.2.0*

Indirect methods require you to perform two upgrades to get to 10g

- *8.1.5 -> 8.1.7 -> 10.1*
- *8.1.6 -> 8.1.7 -> 10.1*
- *7.3.4 -> 9.2.0 -> 10.1*



Which three versions of Oracle can be upgraded to Oracle 10g using an indirect method instead of a direct upgrade method? (Choose three.)

- 8.0.4
- 8.1.6
- 7.3.4
- 8.0.6

Explanation:

You can upgrade the Oracle versions 7.3.4, 8.0.4, and 8.1.6 to Oracle 10g using an indirect method instead of a direct upgrade method. To upgrade these versions of Oracle, you need to first upgrade these releases to the most intermediate release and then upgrade to Oracle 10g.

Oracle version 8.0.6 does not need to be upgraded using an indirect method. Oracle release 8.0.6 can be directly upgraded to Oracle 10g.

Objective:

Installation

Sub-Objective:

Describe installation new features support

References:

1. Oracle University - *Oracle Database 10g: New Features for Administrators* - Installation
2. OTN - http://download-west.oracle.com/docs/cd/B14117_01/server.101/b10742/install.htm#sthref102



You need to upgrade your Oracle database from version 8.0.4 to Oracle 10g. Which statement holds true about upgrading your database?

- You can indirectly upgrade your database from version 8.0.4 to Oracle 10g.**
- You cannot upgrade your Oracle database from version 8.0.4 to Oracle 10g.
- You can upgrade your Oracle database to version 8.1.5, and then you can directly upgrade your database from version 8.1.5 to Oracle 10g.
- You can directly upgrade your database from version 8.0.4 to Oracle 10g.

Explanation:

To upgrade your Oracle database from version 8.0.4 to Oracle 10g, you can indirectly upgrade your database from version 8.0.4 to Oracle 10g. You can upgrade your database to version 8.0.6, and then you can directly upgrade your database from version 8.0.6 to Oracle 10g.

You cannot directly upgrade your database from version 8.0.4 to Oracle database 10g. You can indirectly upgrade your database from version 8.0.4 to Oracle database 10g.

You can indirectly upgrade your database from version 8.0.4 to Oracle 10g.

You cannot upgrade your database to version 8.1.5 and then directly upgrade your database from version 8.1.5 to Oracle 10g because you cannot directly upgrade Oracle version 8.1.5 to Oracle 10g.

Objective:

Installation

Sub-Objective:

Describe installation new features support

References:

1. Oracle University - *Oracle Database 10g: New Features for Administrators* - Installation



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Which script is run automatically by the Database Upgrade Assistant (DBUA) tool to perform some pre-upgrade validation tests?

- utlu101i.sql**
- utlchain.sql
- utlu101s.sql
- utlupgrade.sql

Explanation:

A pre-upgrade information utility is run by DBUA to perform some pre-upgrade validation tests.

The `utlu101i.sql` script is run automatically by the DBUA tool to perform these pre-upgrade validation tests.

The `utlchain.sql` script is not used to perform pre-upgrade validation tests. The `utlchain.sql` script is a tuning script that used to create a table, `CHAINED_ROWS`, which captures the row identifiers (ROWIDs) of chained or migrated rows.

The `utlu101s.sql` script is executed after upgrading your database. The `utlu101s.sql` script runs a post-upgrade utility used to validate the status of database components being upgraded.

The option `utlupgrade.sql` is incorrect because this is an invalid script and does not exist in Oracle.

Objective:

Maintain Software

Sub-Objective:

Use new utility to perform upgrade validation checks

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Notes

You have created an Oracle 10g database and have set the `COMPATIBLE` parameter to 9.2.0.2 in the initialization parameter file at the time of database creation. Which two statements are true? (Choose two.)

- You can change the parameter to 10.0.0 after the database is created.
- You cannot set the `COMPATIBLE` parameter to 9.2.0.2.
- The `COMPATIBLE` parameter has no effect. The default value of 10.0.0 is applicable after the database is opened.
- You cannot use all the new features of Oracle 10g.

Explanation:

You cannot use all the new features of Oracle 10g if you set the `COMPATIBLE` parameter to 9.2.0.2. If the `COMPATIBLE` parameter is set to 9.2.0.2, the features that require 10.0.0 compatibility would generate an error. You can always advance the value of the `COMPATIBLE` parameter if you have set the `COMPATIBLE` parameter to a lower value than the default value of the current release of the database.

The option stating that you cannot set the `COMPATIBLE` parameter to 9.2.0.2 is incorrect. At the time of database creation, you can set the value of the `COMPATIBLE` parameter to a value lower than the current release of Oracle 10g. However, you cannot set the `COMPATIBLE` parameter to a lower value if the database has been opened with the `COMPATIBLE` parameter set to 10.0.0.

The option stating that the `COMPATIBLE` parameter has no effect is incorrect. The default `COMPATIBLE` parameter can be overridden by a lower value at the time of database creation. However, if the database has been opened with the `COMPATIBLE` parameter set to the default value of the current release, then you cannot set a lower value to the `COMPATIBLE` parameter.

Objective:

Server Configuration

Sub-Objective:

Simplify instance configuration using a subset of initialization parameters

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10g New Features for Administrators

Data Pump

- 8i / 9i method for suspending exports and imports. **N/A**
- 8i / 9i method for restarting failed exports and imports at point of failure. **N/A**
- 8i / 9i method for controlling the number of threads/processes. **N/A**
- 8i / 9i method for direct mode imports. **N/A**
- 8i / 9i method for monitoring export and import's. **N/A**
- 8i / 9i method for importing and exporting data via PL/SQL. **N/A**
- 8i / 9i method for exporting/importing pre-defined objects via include or exclude keywords (grants, procedures, functions, tables..etc). Supports like and not like clause. **N/A**
- 8i / 9i method for remapping tablespaces and datafiles. **N/A**

10g New Features for Administrators

Data Pump

High performance import and export

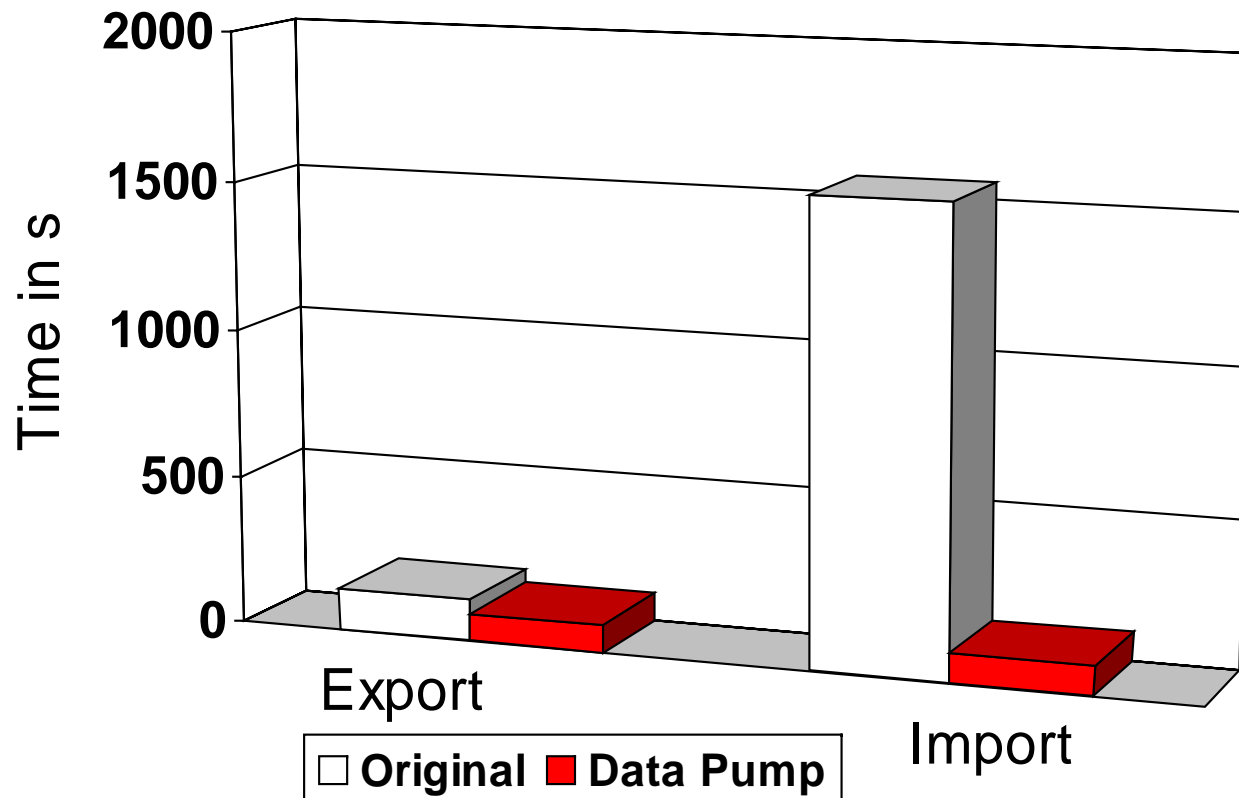
- 60% faster than 9i export (single thread)
- 15x-45x faster than 9i import (single thread)

The reason it is so much faster is that Conventional Import uses only conventional mode inserts, whereas Data Pump Import uses the Direct Path method of loading. As with Export, the job can be parallelized for even more improvement dynamically. Creates a separate dump file for each degree of parallelism.

10g New Features for Administrators

Data Pump

Time is money. Data Pump has cut down data movement/processing times significantly.





You want to perform transformations on metadata for remapping storage between tablespaces. You also want to redefine the owner of a particular set of objects during a data pump job operation. Which of the following data pump import parameters can be used to accomplish this? (Choose four.)

- REMAP_DATAFILE
- REMAP_SCHEMA
- TRANSFORM
- REMAP_TABLESPACE
- REMAP_USER

Explanation:

You can use the TRANSFORM, REMAP_SCHEMA, REMAP_DATAFILE, and REMAP_TABLESPACE parameters of the data pump import job for remapping storage between tablespaces or for redefining the owner of a particular set of objects. The TRANSFORM parameter of a data pump import allows you to alter the object creation data definition language (DDL) for certain specific objects. The REMAP_SCHEMA parameter loads all the objects from the source schema into a target schema. The REMAP_DATAFILE parameter of a data pump import job changes the name of the source data file to the target data file name in all SQL statements where the source data file is referenced. The REMAP_TABLESPACE parameter of a data pump import job remaps all objects selected for import, in the source tablespace to be created in the target tablespace.

The option stating REMAP_USER is incorrect because it is not a valid parameter of a data pump import job.

Objective:

Load and Unload Data

Sub-Objective:

Use Data Pump export and import

References:

 Mark for review

Item 14 of 19

Ref: 1Z0-040a.3.4.1

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Notes

Which parameter value is not a valid parameter value of the CONTENT parameter of the data pump export command?

- DATA_ONLY
- METADATA_ONLY
- ALL
- BOTH

Explanation:

The parameter value BOTH is not a valid parameter value of the CONTENT parameter of the data pump export command.

The valid parameter values of the CONTENT parameter of the data pump export command are:

- ALL - Exports both data and metadata information.
- DATA_ONLY - Exports only table data.
- METADATA_ONLY - Exports only database object definitions.

Objective:

Load and Unload Data

Sub-Objective:

Use Data Pump export and import

References:

1. Oracle University - Oracle Database 10g: New Features for Administrators - Load and Unload

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You execute the following data pump export command:

```
$ expdp scott/tiger TABLES=emp ESTIMATE=STATISTICS DIRECTORY=dpump_dir1
DUMPFILE=estimate_stat.dmp ESTIMATE_ONLY=Y
```

Which statement about the outcome of executing this command is true?

- The estimate is calculated for EMP table data only.
- The data pump export command will fail.**
- The data pump job will gather the estimates without actually performing the export.
- The data pump export command will complete successfully.

Explanation:

The data pump export command will fail. When you are using the `ESTIMATE_ONLY=Y` parameter, the `DUMPFILE` parameter cannot be specified. The `ESTIMATE_ONLY` parameter is used to simply display the estimate of the disk space to be consumed by the export of EMP table based on the statistical information of the table.

The option stating that the estimate is calculated for EMP table data only is not true in this scenario because the command in the scenario would fail to execute.

The data pump export command will not complete successfully because the data pump export will fail in this scenario.

The data pump job will not gather the estimate without actually performing the export of EMP table because the export command will fail in this scenario.

Objective:

Load and Unload Data

Sub-Objective:



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Notes

Which of the following is not a valid Data Pump export and import mode?

- Table
- Data file**
- Schema
- Full
- Tablespace
- Transportable Tablespace

Explanation:

Data file is not a valid Data Pump export and import mode.

The valid modes for Data Pump export and import include:

- Full
- Table
- Schema
- Tablespace
- Transportable tablespace

You specify the mode on the command line using the appropriate parameter while executing Data Pump export or import. The following example displays the use of one of the modes for performing full database export:

```
$ expdb system/sys full=y ... ..
```

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10g New Features for Administrators

Flashback Database

8i / 9i method for point-in-time recovery

- Shutdown the database
- **Restore all of the datafiles from last backup**
- Startup the database in mount state
- Recover database until (SCN or Time)
- **Apply the necessary redo/archive logs**
- Open the database – open resetlogs

10g New Features for Administrators

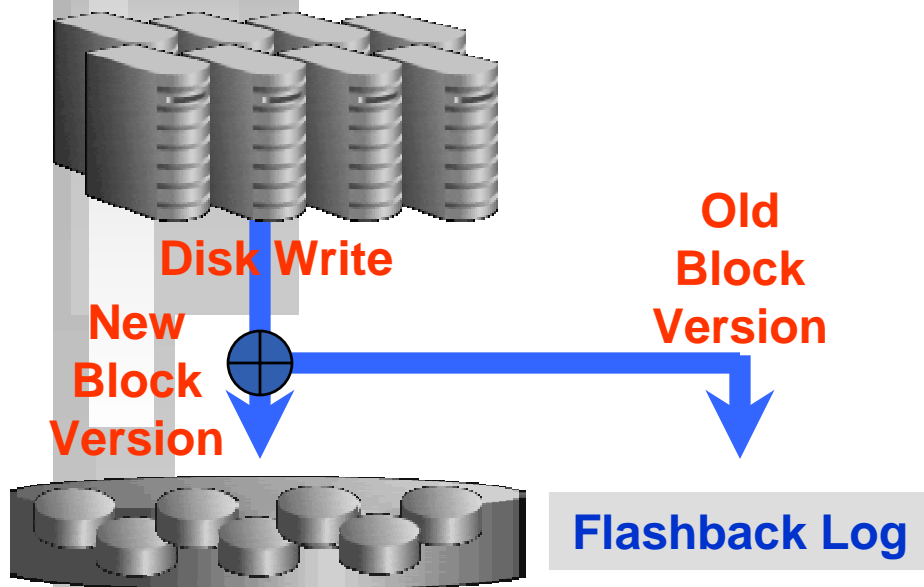
Flashback Database

10g method for point-in-time recovery

- Shutdown the database
- Startup the database in mount state
- SQL> ***flashback database to timestamp to_timestamp('2004-12-16 16:10:00', 'YYYY-MM-DD HH24:MI:SS');***
- Open the database – open resetlogs

10g New Features for Administrators

Flashback Database



**Like a "Rewind" button
for the Database**

New strategy for point-in-time recovery
Flashback Log captures old versions of
changed blocks.

Think of it as a continuous backup
Replay log to restore DB to time
Restores just changed blocks

It's fast - recovers in minutes, not hours.
More over, this feature removes the
need for database incomplete
recoveries that require physical
movement of datafiles/restores.

It's easy - single command restore

```
SQL> Flashback Database to scn  
1329643
```

10g New Features for Administrators

Flashback Database

Restrictions

- Not used for Media failure errors. Used for Logical/User errors.
- The database control file has been restored or re-created.
- Previous tablespace has been dropped.
- The database data file that contains the object to be queried has been shrunk.
- A recovery through the resetlogs command has occurred.

Views for Monitoring

- V\$Database
- V\$Flashback_Database_Log
- V\$Flashback_Database_Stat



You need to configure a flashback database. You issued the `ALTER DATABASE FLASHBACK ON;` statement to enable flashback database. Your database is running in archive log mode. In which of the following modes should your database be before you issue this statement?

- OPEN
- NOMOUNT
- MOUNT EXCLUSIVE
- MOUNT SHARED

Explanation:

To enable flashback database, you need to issue the `ALTER DATABASE FLASHBACK ON;` statement in the `MOUNT EXCLUSIVE` mode. The database should be configured to run in the `EXCLUSIVE` mode. You can configure the database to run in the `EXCLUSIVE` mode by assigning the value `EXCLUSIVE` to the `REMOTE_LOGIN_PASSWORDFILE` initialization parameter.

The option `OPEN` mode is incorrect because you cannot issue the `ALTER DATABASE FLASHBACK ON;` statement in the `OPEN` mode. The database needs to be in the mounted state to execute the `ALTER DATABASE FLASHBACK ON;` statement successfully.

The option `NOMOUNT` mode is incorrect because you cannot issue the `ALTER DATABASE FLASHBACK ON;` statement in the `NOMOUNT` mode. To enable flashback database, the database needs to be in the mounted mode.

The option `MOUNT SHARED` mode is incorrect because the database needs to run in the `EXCLUSIVE` mode and should be in the mount mode to execute the `ALTER DATABASE FLASHBACK ON;` statement successfully.

Objective:

Flashback Any Error

Sub Objective:



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Notes

You need to alter the destination and size of the flash recovery area. Which two initialization parameters need to be changed to alter the destination and size of the flash recovery area? (Choose two.)

- DB_FLASH_RECOVERY_FILE_DEST
- DB_RECOVERY_FILE_DEST**
- DB_FLASH_RECOVERY_FILE_DEST_SIZE
- DB_RECOVERY_FILE_DEST_SIZE**

Explanation:

To alter the destination and size of the flash recovery area, you need to alter the `DB_RECOVERY_FILE_DEST` parameter and the `DB_RECOVERY_FILE_DEST_SIZE` parameter. These two parameters are configured manually in the initialization parameter file. However, these two parameters are dynamic in nature and can be changed using the `ALTER SYSTEM` command.

The `DB_FLASH_RECOVERY_FILE_DEST` and `DB_FLASH_RECOVERY_FILE_DEST_SIZE` parameters do not exist in Oracle.

Objective:

Flashback Any Error

Sub-Objective:

Configure and use Flashback Database

References:

1. Oracle University - *Oracle Database 10g: New Features for Administrators* - Flashback Any Error
2. OTN - http://download-west.oracle.com/docs/cd/B14117_01/server.101/b10739/create.htm#sthref297

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Notes

Which view would you query to determine whether the flashback database feature has been enabled for your database?

- V\$DATAFILE
- V\$CONTROLFILE
- V\$DATABASE
- V\$LOGFILE

Explanation:

The V\$DATABASE view displays information about whether the flashback database has been enabled for your database. The FLASHBACK_ON column of the V\$DATABASE view indicates whether the flashback database feature has been enabled or not. A value of YES indicates the flashback database feature is enabled for your database.

The V\$LOGFILE view does not provide information about whether the flashback database feature has been enabled for your database. This view displays the name and status of the redo log files for your database.

The V\$DATAFILE view does not provide information about whether the flashback database feature has been enabled for your database. This view indicates the name for the data files existing in your database.

The V\$CONTROLFILE view does not provide information about whether the flashback database feature has been enabled for your database. This view indicates the name and location of the control files existing in the database.

Objective:

Flashback Any Error

Sub-Objective:

Configure and use Flashback Database

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10g New Features for Administrators

Segment Shrink

Definition

- Segment Shrink compresses the data blocks in a table or index and optionally moves the HWM down, making the unused space available for other segments in the tablespace. Prior to 10g, the HWM could be moved down only if the segment was moved or truncated. Online table redefinition and/or CTAS operations can also provide similar results, however, these methods must temporarily provide double the amount of space occupied by the table. Segment shrink is online and in place.

Syntax

- *Alter table hr.employees enable row movement; (prerequisite)*
- *Alter table hr.employees shrink space compact; (Compress the rows without moving the HWM to prevent I/O throughput from decreasing).*
- *Alter table hr.employees shrink space; (Move the HWM and complete the operation when the database isn't as busy). A small number of rows are locked for a brief amount of time.*
- *Alter table hr.employees shrink space cascade; (Also shrinks dependent objects – indexes).*
- *Alter index hr.emp_emp_id_pk shrink space; (Without cascade, need to identify indexes from dba_indexes and shrink each one separately).*

10g New Features for Administrators

Segment Shrink

Candidates

- *Heap-organized and index-organized tables*
- *Indexes*
- *Partitions and subpartitions*
- *Materialized Views and materialized view logs*

Non-Candidates

- *Clustered tables*
- *Tables with Long Columns*
- *Tables with on-commit or ROWID-based MV's*
- *LOB segments*
- *IOT mapping tables or overflow segments*
- *Tables with function-based indexes*

Identify candidates

EM database control and Segment Advisor can assist you in identifying segments that can leverage from segment shrink.



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Learn Now

Notes

You need to shrink the **EMP** table to release the unused space below the High Water Mark (HWM). You executed the `ALTER TABLE EMP ENABLE ROW MOVEMENT` statement before shrinking the **EMP** table. Which two statements are true about executing this statement? (Choose two.)

- The `ENABLE ROW MOVEMENT` clause can be specified only during creation of the **EMP** table.
- This statement enables row movement activity within the **EMP** table.**
- This statement would return an error on execution.
- To shrink the **EMP** table, the execution of this statement is a prerequisite.**

Explanation:

When you execute the `ALTER TABLE EMP ENABLE ROW MOVEMENT` statement, row movement activity within the **EMP** table is enabled. This statement is a prerequisite before you shrink the table with the `ALTER TABLE EMP SHRINK SPACE` statement. If you do not execute the `ALTER TABLE EMP ENABLE ROW MOVEMENT` statement before shrinking the **EMP** table, an error would be generated. Shrinking of the table involves movement of rows within the segment causing the row identifiers (**ROWIDS**) of the table to change. Therefore, the `ALTER TABLE EMP ENABLE ROW MOVEMENT` statement should be executed before shrinking to enable movement of rows within the segment.

This command would not give an error on execution. The `ALTER TABLE EMP ENABLE ROW MOVEMENT` command would execute successfully and would enable row movement activity within the **EMP** table.

The `ENABLE ROW MOVEMENT` clause can be specified during creation of the **EMP** table and after creation of the table by using the `ALTER TABLE` command.

Objective:

Space Management

Sub-Objective:

Reclaim wasted space from tables and indexes using the segment shrink functionality

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Notes

You need to shrink the **EMP** table and its dependent segments to release the unused space below and above the segments High Water Mark (HWM). The **EMP** table and its dependant segments are located in the **USERS** tablespace. Which command releases the space below the HWM?

- SQL> ALTER TABLE EMP SHRINK SPACE CASCADE;
- SQL> ALTER TABLE EMP COALESCE;
- SQL> ALTER TABLE EMP SHRINK SPACE INCLUDING CONTENTS;
- SQL> ALTER TABLE EMP SHRINK SPACE;

Explanation:

To shrink the **EMP** table and its dependent segments, you should use the, `SQL> ALTER TABLE EMP SHRINK SPACE CASCADE;` statement. The shrinking of segments is a new concept introduced in Oracle 10g. The `CASCADE` clause with the `SHRINK SPACE` clause of the `ALTER TABLE` statement shrinks all the dependant segments of the **EMP** table. For example, if an index is associated with the **EMP** table, the `SQL> ALTER TABLE EMP SHRINK SPACE CASCADE;` statement would shrink the **EMP** table and its index and release the unused space below and above the segment's High Water Mark (HWM).

The statement `SQL> ALTER TABLE EMP COALESCE;` is incorrect and would generate an error on execution.

The statement `SQL> ALTER TABLE EMP SHRINK SPACE;` releases the unused space below and above the HWM of the **EMP** table only and not for its dependent segments.

The statement `SQL> ALTER TABLE EMP SHRINK SPACE INCLUDING CONTENTS;` is incorrect and would generate an error on execution.

Objective:

Space Management

Sub-Objective:

Reclaim wasted space from tables and indexes using the segment shrink functionality

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Learn Now

Notes

You need to shrink the EMP table to release the unused space below and above the High Water Mark (HWM). The EMP table is located in the USERS tablespace. Which statement releases the space below the HWM?

- SQL> ALTER TABLESPACE USERS COALESCE;
- SQL> ALTER TABLE EMP SHRINK SPACE;
- SQL> ALTER TABLE EMP COALESCE;
- SQL> ALTER TABLE EMP DEALLOCATE UNUSED;

Explanation:

The SQL> ALTER TABLE EMP SHRINK SPACE; statement releases the unused space below and above the HWM. The shrinking of segments is a new concept introduced in Oracle 10g. You can shrink the EMP table to release the unused space above and below the HWM.

The statement SQL> ALTER TABLE EMP COALESCE; is syntactically incorrect and would generate an error on execution.

The statement SQL> ALTER TABLESPACE USERS COALESCE; is incorrect. This statement will not release the unused space below the HWM of the EMP table. This statement is used to combine the adjacent free extents of the USERS tablespace into one big extent.

The statement SQL> ALTER TABLE EMP DEALLOCATE UNUSED; is incorrect. This statement will not release the unused space below the HWM of the EMP table. This statement is used to free all blocks above the HWM of the EMP table.

Objective:

Space Management

Sub-Objective:

Reclaim wasted space from tables and indexes using the segment shrink functionality

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10g New Features for Administrators

RMAN Backupset Compression

8i / 9i method for compressing backups
(Compression utility)

gzip *.bak, *.arc, *.ctl....etc;

10g New Features for Administrators

RMAN Backupset Compression

10g method for compressing backups

- RMAN> *CONFIGURE DEVICE TYPE DISK PARALLELISM 1 BACKUP TYPE TO COMPRESSED BACKUPSET;*
- RMAN> *BACKUP **AS COMPRESSED** BACKUPSET DATABASE PLUS ARCHIVELOG;*

Prior to Oracle 10g, RMAN reduced the size of backup images by backing up only used blocks. This was great for databases that were over-sized, however, this didn't help for large databases with little free space.

The **AS COMPRESSED** BACKUPSET option of the BACKUP command allows RMAN to perform binary compression of backupsets. The resulting backupsets do not need to be uncompressed during recovery.

10g New Features for Administrators

RMAN Backupset Compression

Pros:

- Backupsets were compressed by 78% when compared to a regular backupset.

Cons:

- Creating compressed backupsets imposes some extra CPU overhead during backup and restore, which can slow the backup process. If you have more than one CPU, you can use increased parallelism to run jobs on multiple CPUs and thus improve performance.



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Learn Now

Notes

You are performing compressed backups using Recovery Manager (RMAN). Which component of the database cannot be compressed?

- backup sets
- image copies**
- archive logs
- data files

Explanation:

You cannot compress image copies. Image copies are created when you use the `BACKUP AS COPY RMAN` command. The compression mechanism provided by Oracle does not compress image copies.

You can compress data files and archive logs by including these files in backup sets and then compressing them by using the `BACKUP AS COMPRESSED BACKUPSET RMAN` command.

The compression mechanism provided by Oracle can compress only backup sets. Backup sets are RMAN-specific logical structures. Each backup set consists of four or less data files or 16 or less archived logs.

Objective:

Backup and Recovery Enhancements

Sub-Objective:

Save storage space through writing compressed backup sets

References:

1. Oracle University - *Oracle Database 10g: New Features for Administrators* - Backup and Recovery Enhancements
2. OTN - http://download-west.oracle.com/docs/cd/B14117_01/server.101/h10735/hkup.htm#1025267

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Notes

You need to compress the backup sets to make more efficient use of storage space. Which two values of the `COMPATIBLE` initialization parameter should be set for the database to support the compressed backup set feature? (Choose two.)

- 9.2.0.0.0
- 10.0.0.0.0
- 10.1.0.2.0
- 8.1.0

Explanation:

The `COMPATIBLE` parameter can be set to 10.0.0.0.0 or 10.1.0.2.0 for the database to support the compressed backup set feature. The compressed backup set feature was introduced in 10g and is not supported in the earlier versions of Oracle. This compressed backup set feature is used to compress the backup sets to make more efficient use of storage space on your disks.

The values 8.1.0 or 9.2.0.0.0 for the `COMPATIBLE` parameter are incorrect because databases with these `COMPATIBLE` parameter values do not support the compressed backup set feature.

Objective:

Backup and Recovery Enhancements

Sub-Objective:

Save storage space through writing compressed backup sets

References:

1. Oracle University - *Oracle Database 10g: New Features for Administrators* - Backup and Recovery Enhancements

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10g New Features for Administrators

RMAN Fast Incremental Backups

Definition

- *Speeds up RMAN Incremental backups by identifying those data blocks that have already changed since the previous backup. It uses a change-tracking-file to track the physical location of all database changes. During an RMAN Incremental backup, RMAN uses the change tracking file to identify only the blocks that have changed, as opposed to reading the entire datafile to determine which blocks have changed.*

Syntax

- *Alter database enable block change tracking using file
`'u04/oradata/ord/changetracking/chg01.dbf';`*
- OR
- *You can configure via EM Database Control*

NOTES

- *When using OMF, you only need to specify `db_create_file_dest` parameter to `/u04/oradata`.*
- *A new background process is introduced - CTWR*

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Notes

Which two methods can be used to enable fast incremental backup for your database? (Choose two.)

- You cannot enable fast incremental backup for your database.
- You can enable fast incremental backup for your database from the Policy tab from the Configure Backup Settings on the Maintenance tab of Database Control Home page.**
- You can issue the ALTER DATABASE ENABLE FAST INCREMENTAL BACKUP statement.
- You can issue the ALTER DATABASE ENABLE BLOCK CHANGE TRACKING USING FILE command.**

Explanation:

You can enable fast incremental backup for your database in the following ways:

- You can issue the ALTER DATABASE ENABLE BLOCK CHANGE TRACKING USING FILE statement.
- You can enable fast incremental backup for your database from the Policy tab from the Configure Backup Settings on the Maintenance tab of the Database Control Home Page.

The option stating you cannot enable fast incremental backup for your database is incorrect because you can enable fast incremental backup for your database using the ALTER DATABASE ENABLE BLOCK CHANGE TRACKING USING FILE statement.

The option stating you can issue ALTER DATABASE ENABLE FAST INCREMENTAL BACKUP command is incorrect because the command is an invalid command and does not exist in Oracle.

Objective:

Backup and Recovery Enhancements

Sub-Objective:

Reduce restore time by applying incremental backups to data file image copies

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Notes

Your database has been configured for fast incremental backup. Which statement is used to update the control file if the block change tracking file must be renamed?

- ALTER SYSTEM SET DB_CREATE_FILE_DEST =
- ALTER DATABASE RENAME RENAME LOGFILE TO
- ALTER DATABASE RENAME FILE ... TO ...
- You cannot rename the block change tracking file.

Explanation:

You can update the control file with the new name of the block change tracking file by using the ALTER DATABASE RENAME FILE ... to ... command

The option stating you cannot rename the block change tracking file is incorrect because you can rename the block change tracking file using the ALTER DATABASE RENAME FILE .. to ... statement.

The ALTER SYSTEM SET DB_CREATE_FILE_DEST = statement is not used to update the control file with the new name of the block change tracking file. This statement is used to alter the default location for Oracle-managed Files.

The ALTER DATABASE RENAME LOGFILE ...TO... statement is not used to rename the block change tracking file. This statement is used to update the control file with the new name of the redo log files.

Objective:

Backup and Recovery Enhancements

Sub-Objective:

Reduce restore time by applying incremental backups to data file image copies

References:

1. Oracle University - Oracle Database 10g: New Features for Administrators - Backup and Recovery Enhancements

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Notes

Your database is configured for fast incremental backup. Which background process is responsible for tracking the physical location of all database changes and writing the physical location of all database changes into the change tracking file?

- PMON
- CTWR
- SMON
- BCWR

Explanation:

The change tracking writer (CTWR) background process is responsible for tracking the physical location of all database changes and writing the physical location of all database changes into the change tracking file.

The system monitor (SMON) process is not responsible for tracking the physical location of all database changes. The SMON process is used to perform crash recovery when the database instance is started following an instance failure.

The process monitor (PMON) process is not responsible for tracking the physical location of all database changes. The PMON process is used to clean up the failed user processes. When a user process fails abnormally, the PMON process rolls back the uncommitted transactions.

The BCWR process is an invalid background process and does not exist in Oracle.

Objective:

Backup and Recovery Enhancements

Sub-Objective:

Reduce restore time by applying incremental backups to data file image copies

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10g New Features for Administrators

Flush Buffer Cache

8i/9i method for flushing the buffer cache

Prior to 10g, this wasn't possible without shutting down and restarting the database or using the following undocumented commands:

- SQL> *alter session set events = 'immediate trace name flush_cache';*
- alter tablespace offline/online to flush the buffer cache of blocks relating to that tablespace (As per Tom Kytes Article).

Side-Note - You were able to flush the shared pool

```
SQL> ALTER SYSTEM FLUSH SHARED_POOL;
```

10g New Features for Administrators

Flush Buffer Cache

10g method for flushing the buffer cache

10g has provided the ability to flush the buffer cache. This isn't suggested for a production environment, but might be useful for QA/Testing. The bigger the cache, the larger the LRU and dirty list becomes. That results in longer search times. However, if the buffer cache is undersized, than running the following command can improve performance and take the burden off the DBWR. In addition to decreasing free buffer waits.

```
SQL> ALTER SYSTEM FLUSH BUFFER_CACHE;
```



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Learn Now

Notes

You executed the following statement:

```
ALTER SYSTEM FLUSH BUFFER_CACHE;
```

Which two statements are true? (Choose two.)

- After executing this statement, the next Structured Query Language (SQL) statement being executed gets 100 percent cache hit.
- After executing this statement, the next Structured Query Language (SQL) statement being executed gets 100 percent cache miss.**
- This statement generates an error on execution.
- This statement flushes the entire buffer cache.**

Explanation:

In this scenario, the `ALTER SYSTEM FLUSH BUFFER_CACHE;` statement will flush the entire contents of the buffer cache. In addition, the next SQL statement being executed will get 100 percent cache miss because no data will be available in the buffer cache to fetch.

This statement does not generate an error on execution because this statement runs successfully in Oracle 10g.

After executing this statement, the next SQL statement being executed does not get 100 percent cache hit because the SQL statement being executed gets 100 percent cache miss.

Objective:

Miscellaneous New Features

Sub-Objective:

Use SQL to flush the buffer cache

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10g New Features for Administrators

Rename Tablespace

8i / 9i method for renaming tablespaces

- Create a new tablespace with the same size as the original one. (You have to make sure you have enough room on disk to store a duplicate copy). Space pending, this might require additional analysis of the original tablespace to determine if the new tablespace can be resized/reorged.
- Move objects from the original tablespace to the new one. (This could take a while, depending on the size of the tablespace).
- Drop the original tablespace and datafile(s) after the objects are moved to the newly named tablespace.

10g New Features for Administrators

Rename Tablespace

10g method for renaming tablespaces

*SQL> alter tablespace users **rename** to users3;*

10g New Features for Administrators

Rename Tablespace

Oracle allows the renaming of tablespaces in 10g. A simple alter tablespace command is all you need.

```
SQL> alter tablespace users rename to users3;
```

```
Tablespace altered.
```

```
Elapsed: 00:00:00.05
```

```
SQL> alter tablespace users3 rename to users;
```

```
Tablespace altered.
```

```
Elapsed: 00:00:00.02
```

10g New Features for Administrators

Rename Tablespace

- Rename tablespace feature has lessened the workload for TTS operations. There's no need to delete tablespaces on the target prior to impdp metadata.
- Doesn't Support System or Sysaux tablespaces
- Supports Default, Temporary, and Undo Tablespaces (dynamically changes the spfile).



Which statement is true for renaming tablespaces?

- You can rename the `SYSTEM` and `SYSAUX` tablespaces.
- You can rename read-only tablespaces only if they are offline.
- You cannot rename temporary tablespaces.
- You cannot rename the tablespaces if the `COMPATIBLE` initialization parameter is set to below `10.0.0.0.0`.

Explanation:

You cannot rename tablespaces if the `COMPATIBLE` initialization parameter is set to below `10.0.0.0.0`. To rename tablespaces, the `COMPATIBLE` initialization parameter should be at least set to `10.0.0.0.0`.

You can rename permanent and temporary tablespaces using the `RENAME` clause of the `ALTER TABLESPACE` statement.

You cannot rename the `SYSAUX` and `SYSTEM` tablespaces. An error is generated if you try to rename the `SYSAUX` or `SYSTEM` tablespace.

You can rename read-only tablespaces. To rename any tablespace, the tablespace and the data files belonging to the tablespace must be online.

Objective:

General Storage Enhancement

Sub-Objective:

Rename tablespaces

References:

1. Oracle University - *Oracle Database 10g: New Features for Administrators* - General Storage Enhancement
2. OTN - http://download-west.oracle.com/docs/cd/B13789_01/server.101/h10739/tnspaces.htm#ADMIN01104

Evaluate the following statement:

```
SQL> ALTER TABLESPACE users RENAME TO userstab;
```

Which three components of the database, containing the references of the tablespace, will be updated when executing this statement? (Choose three.)

- redo log files
- control file
- online data file headers
- data dictionary

Explanation:

When a tablespace is renamed, the database updates the control file, data dictionary, and the online data file headers. These components contain the references of the tablespace and are updated with the new name given to the tablespace. The Oracle database does not change the tablespace ID; it only changes the name of the tablespace. However, for read-only tablespaces, the data file headers are not updated when the read-only tablespaces are renamed.

The option stating redo log files is incorrect because the redo log files do not contain the references of the tablespaces.

Objective:

General Storage Enhancement

Sub-Objective:

Rename tablespaces

References:

1. Oracle University - *Oracle Database 10g: New Features for Administrators* - General Storage Enhancement

10g New Features for Administrators

Sysaux Tablespace

Definition

- *The Sysaux tablespace is a required tablespace for Oracle 10g. It's used to store many of the objects that used to be stored in the System tablespace. It removes a lot of the I/O and fragmentation that used to occur in the System tablespace.*

Requirements (same characteristics as System)

- *Online*
- *Permanent*
- *Read Write*
- *Extent Management Local*
- *Segment Space Management Auto*

Restrictions

- *Can't be OFFLINE*
- *Can't be Temporary*
- *Can't be Read Only*
- *Can't be Dictionary Managed*

10g New Features for Administrators

Sysaux Tablespace

Contents

- *Some of the objects/occupants stored in the Sysaux tablespace:*
 - *Logmnr*
 - *Logstdby*
 - *Streams*
 - *AO*
 - *Statspack*
 - *ODM*
 - *Text*
 - *WM*
 - *EM*
 - *Job_scheduler*

Syntax

- *Select occupant_name, move_procedure, space_usage_kbytes
from v\$sysaux_occupants;*

Restrictions

- *An occupant without a move procedure can't be moved out of the Sysaux tablespace. Only some of the objects can be moved.*



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Notes

In the exhibit given below, the `SYSAUX` tablespace usage space has crossed 96%. You need to relocate the Workspace Manager (WM) component to the `AUXOCUPANTS` tablespace to create some available space in the `SYSAUX` tablespace.

Database Control

Database

Database: orcl > Tablespaces

Logged in As S

Tablespaces

Update Message

The object has been created successfully

Search

Name

Go

To run an exact match search or to run a case sensitive search, double quote the search criteria. The wildcard (%) symbol can still be used in a double quoted search string.

Results

Select	Name	Type	Extent Management	Segment Management	Status	Size (MB)	Used (MB)	Used (%)
<input checked="" type="radio"/>	<u>AUXOCUPANTS</u>	PERMANENT	LOCAL	AUTO	ONLINE	100.000	96.063	96.06
<input type="radio"/>	<u>EXAMPLE</u>	PERMANENT	LOCAL	AUTO	ONLINE	150.000	79.938	53.29

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<input type="radio"/>	SYSAUX	PERMANENT	LOCAL	AUTO	ONLINE	230.000	222.313	<div style="width: 96.66%;"></div>	96.66
<input type="radio"/>	SYSTEM	PERMANENT	LOCAL	MANUAL	ONLINE	440.000	437.750	<div style="width: 99.49%;"></div>	99.49
<input type="radio"/>	TEMP	TEMPORARY	LOCAL	MANUAL	ONLINE	20.000	17.000	<div style="width: 85.00%;"></div>	85.00
<input type="radio"/>	UNDOTBS1	UNDO	LOCAL	MANUAL	ONLINE	30.000	9.625	<div style="width: 32.08%;"></div>	32.08
<input type="radio"/>	USERS	PERMANENT	LOCAL	AUTO	ONLINE	5.000	2.750	<div style="width: 55.00%;"></div>	55.00

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Which command would you use to relocate the WM component to the AUXOCCUPANTS tablespace? You are logged in as the SYS user.

- SQL> EXECUTE DBMS_WM.MOVE_PROC('AUXOCCUPANTS');**
- SQL> EXECUTE DBMS_WM.MOVE_PROC('SYSAUX');
- SQL> EXECUTE DBMS_WM.MOVE_PROC('SYSAUX','AUXOCCUPANTS');
- SQL> EXECUTE DBMS_WM.MOVE_PROC('AUXOCCUPANTS','SYSAUX');

Explanation:

You need to execute the following command to relocate the Workspace Manager from the SYSAUX tablespace to the AUXOCCUPANTS tablespace.

```
SQL> EXECUTE DBMS_WM.MOVE_PROC('AUXOCCUPANTS');
```

You use the MOVE_PROC procedure of the DBMS_WM package to relocate the WM component. You can also query the V\$SYSAUX_OCCUPANTS view to determine the name of the procedure used to relocate the WM component. To execute the MOVE_PROC procedure of the DBMS_WM package, the user should have the WM_ADMIN_ROLE role assigned.

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You want to relocate the `STREAMS` component from the `SYSAUX` tablespace to the `SYS_COM` tablespace. The `SYS_COM` tablespace is a bigfile tablespace. Which statement is true?

- You cannot relocate the `STREAMS` component to a bigfile tablespace.
- None of the occupants of the `SYSAUX` tablespace can be relocated.
- The `STREAMS` component under the `SYSAUX` tablespace can be relocated only to the `SYSTEM` tablespace.
- You cannot relocate the `STREAMS` component.**

Explanation:

The Oracle Streams (`STREAMS`) component cannot be relocated from the `SYSAUX` tablespace because there is no move procedure which is applicable to relocate the `STREAMS` component. You can check the availability of the move procedure used to relocate the `STREAMS` component by using the following query:

```
SQL> SELECT occupant_name,occupant_desc,schema_name,move_procedure,move_procedure_desc
2 FROM v$sysaux_occupants
3 WHERE occupant_name='ODM';
```

If the move procedure does not exist, the component cannot be relocated.

The option stating that none of the occupants of the `SYSAUX` tablespace can be relocated is incorrect. There are only a few components which cannot be relocated. You can query the `V$SYSAUX_OCCUPANTS` dictionary view to identify the components which can be moved and also the name of the move procedure used to relocate the components.

The option stating that you cannot relocate the `STREAMS` component to a bigfile tablespace is incorrect. The `SYSAUX` components can be relocated to bigfile tablespaces provided the move procedure exists for the component to relocate the component. The `STREAMS` component cannot be relocated to any tablespace because there is no move procedure applicable to relocate the `STREAMS` component.

The option stating that the `STREAMS` component under the `SYSAUX` tablespace can be relocated only to the `SYSTEM` tablespace is incorrect because the `STREAMS`

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Part 2 – What will I be expected to know for the exam?

10g New Features for Administrators

A few more practice questions on some nice features.

Part 2 – What will I be expected to know for the exam?

Additional 10g features worth mentioning

- Drop database command (includes datafiles, control files, archive logs, backups, and spfile).

RMAN> drop database including backups;

- Automated Storage Management
 - utl_mail (no need to reference utl_smtp protocol. It's built in)
 - utl_compress (compression of binary data (blobs and raw data). Similar to gzip.
 - Support of regular expressions (Unix commands in PL/SQL)
 - Default temporary and user tablespaces



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Notes

You are being given INSERT, UPDATE, and SELECT privileges on the PRODUCT and PRODUCT_UPD tables of the SALES schema. You executed the following command

```
SQL> MERGE INTO product_upd pu
  USING product p
  ON (p.prod_code=pu.prod_code)
  WHEN MATCHED THEN
  UPDATE
  SET pu.prod_newprice=p.prod_listprice,
      pu.prod_new_status=p.status
  DELETE WHERE (pu.prod_new_status<>'obsolete')
  WHEN NOT MATCHED THEN
  INSERT (pu.prod_id, pu.prod_newprice, pu.prod_new_status)
  VALUES (p.prod_id, p.prod_listprice, p.prod_status);
```

Which three statements are not true about this command? (Choose three.)

- The command will execute successfully.
- The command will fail because you require the MERGE object privilege to execute the command.
- The command will fail because you cannot use a DELETE clause in the MERGE...UPDATE statement.
- The command will fail and result in an error because MERGE is an invalid command.

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Notes

You executed the following code to create a job to run an executable script file:

```
BEGIN
DBMS_SCHEDULER.CREATE_JOB(
job_name=>'SALES.PERFORM_BACKUP',
job_type=>'EXECUTABLE',
job_action=>'/home/usr/oracle/scripts/perform_backup.sh'
...
...

```

Which three values are valid parameter values for the JOB_TYPE parameter? (Choose three.)

- EXECUTABLE
- PLSQL_BLOCK
- STORED_PROCEDURE
- PROGRAM_NAME

Explanation:

The valid parameter values for the JOB_TYPE parameter are EXECUTABLE, PLSQL_BLOCK, and STORED_PROCEDURE. The JOB_TYPE parameter represents the type of task to be performed by the job. The EXECUTABLE parameter value indicates any executable script or command that can be executed from the command line. The PLSQL_BLOCK parameter value indicates an anonymous PL/SQL block. The STORED_PROCEDURE parameter values indicate a named PL/SQL stored procedure.

PROGRAM_NAME is an invalid parameter value for the JOB_TYPE parameter. The value PROGRAM_NAME is a valid parameter for CREATE_JOB procedure and is used to specify the program name, which represents a type of action to be executed.

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Automating Tasks with the Scheduler

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Notes

You need to create a job that will run an executable script, located in the local directory. These executable scripts are used to perform a backup of the SALES database. The executable script should run on the 15th day of each month at 11:30 P.M. starting August 15, 2004. Which command would accomplish this task?

- DBMS_METADATA DBMS_SCHEDULER.CREATE_JOB(job_name=>'SALES.PERFORM_BACKUP', job_type=>'EXECUTABLE', job_action=>'/home/usr/oracle/oradata/scripts/perform_backup.sh', start_date=>'15-AUG-04 22:30:00 PMGreenwich', repeat_interval=> 'FREQ=MONTHLY; BYMONTHDAY=15; BYHOUR=11; BYMINUTE=30');
- DBMS_METADATA DBMS_SCHEDULER.CREATE_JOB(job_name=>'SALES.PERFORM_BACKUP', job_type=>'STORED_PROCEDURE', job_action=>'SALES.BACKUP_DATA', start_date=>'15-AUG-04 22:30:00 PMGreenwich', repeat_interval=> 'FREQ=MONTHLY; BYMONTHDAY=15; BYHOUR=23; BYMINUTE=30');
- DBMS_METADATA DBMS_SCHEDULER.CREATE_JOB(job_name=>'SALES.PERFORM_BACKUP', job_type=>'PLSQL_BLOCK', job_action=>'INSERT INTO SALES_BACKUP VALUES (9000, 2004, '10 PERCENT', NULL);', start_date=>'15-AUG-04 22:30:00 PMGreenwich', repeat_interval=> 'FREQ=MONTHLY; BYMONTHDAY=15; BYHOUR=23; BYMINUTE=30');
- DBMS_METADATA DBMS_SCHEDULER.CREATE_JOB(job_name=>'SALES.PERFORM_BACKUP', job_type=>'EXECUTABLE', job_action=>'/home/usr/oracle/oradata/scripts/perform_backup.sh', start_date=>'15-AUG-04 23:30:00 PMGreenwich', repeat_interval=> 'FREQ=MONTHLY; BYMONTHDAY=15; BYHOUR=23; BYMINUTE=30');

Explanation:

To create a job that will run an executable script on the 15th day of every month at 11:30 P.M. starting on August 15, 2004, you would need to execute the following procedure:

```
DBMS_METADATA DBMS_SCHEDULER.CREATE_JOB( job_name=>'SALES.PERFORM_BACKUP', job_type=>'EXECUTABLE',
job_action=>'/home/usr/oracle/oradata/scripts/perform_backup.sh', start_date=>'15-AUG-04 23:30:00 PMGreenwich',
repeat_interval=> 'FREQ=MONTHLY; BYMONTHDAY=15; BYHOUR=23; BYMINUTE=30');
```

This procedure would create a job identified by `PERFORM_BACKUP`. The job would run the `perform_backup.sh` script file on the 15th of every month at 11:30 P.M. starting on August 15, 2004.

The option

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Notes

You need to run a job every fourth week on Monday. To which value should the `repeat_interval` parameter of the `CREATE_JOB` procedure be set?

- `FREQ=YEARLY; BYWEEKNO=8; BYDAY=1`
- `FREQ=YEARLY; BYWEEKNO=4; BYDAY=MON`
- You cannot perform this type of schedule.
- `FREQ=YEARLY; BYWEEKNO=4,8,12,16,20,24,28,32,36,40,44,48,52; BYDAY=MON`

Explanation:

To run a job every fourth week on Monday, you can set the value of `repeat_interval` parameter to: `FREQ=YEARLY; BYWEEKNO=4,8,12,16,20,24,28,32,36,40,44,48,52; BYDAY=MON`. This value would run the job every fourth week on Monday. The `BYWEEKNO` option has been set from 4 to 52, because there are 52 weeks in a year and the job should be run on an interval of every four weeks.

The option `FREQ=YEARLY; BYWEEKNO=8; BYDAY=1` is incorrect because the parameter value for `BYDAY` is incorrect.

The option `FREQ=YEARLY; BYWEEKNO=4; BYDAY=MON`, is incorrect because setting this value to the `repeat_interval` parameter would run the job only on the fourth week of each year, on Monday. It would not run the job every fourth week.

The option stating you cannot perform this type of schedule is incorrect because you can perform this type of schedule by setting the value of `repeat_interval` to: `FREQ=YEARLY; BYWEEKNO=4,8,12,16,20,24,28,32,36,40,44,48,52; BYDAY=MON`.

Objective:

Automating Tasks with the Scheduler

Sub-Objective:

Create a job, program, schedule and window

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Notes

You executed the following statement in the user SCOTT's schema:

```
SQL> SELECT * FROM emp
WHERE regexp_like (ename, '([aeiou])', 'i');
```

What is the result when this statement is executed?

- All records of the emp table where the employee name does not contain any of the five vowels mentioned in the search pattern are displayed.
- All records of the emp table irrespective of the search pattern specified are displayed.
- All records of the emp table where the employee name contains any one of the five vowels are displayed.
- All records of the emp table where the employee name contains all five vowels in their names are displayed.

Explanation:

In this scenario, the statement displays all records of the emp table where the employee name contains any one of the five vowels. The REGEXP_LIKE clause is a new clause introduced in Oracle 10g. It is used to search regular expressions based on simple and complex patterns. Unlike the LIKE clause, where you had the limitation of using only two wild characters to search the text, the REGEXP_LIKE clause can search text based on complex patterns. In the given scenario, the parameter value [aeiou] signifies the pattern of text to be searched in the ename column data of the emp table. The 'i' parameter value signifies that the search is case-sensitive. The parameter value [aeiou] will search for the occurrences of any of these five vowels in the ename column data and would display the records appropriately.

The options all records of the emp table irrespective of the search pattern specified are displayed, all records of the emp table where the employee name contains all five vowels in their names are displayed, and all records of the emp table where the employee name does not contain any of the five vowels mentioned in the search pattern are displayed are incorrect. This is because the above command would display only those records of the emp table where there are occurrences of any vowel in the ename column data of the emp table.

Objective:

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References

Books and Software:

- *OCP Oracle 10g New Features for Administrators by Bob Bryla and Biju Thomas*
- *Self-Test Software*

Web Sites:

- <http://www.dbdomain.com>
- <http://www.oracle.com/education/certification>
- <http://www.oracle.com/newsletters/itmanagers/itcurrent.html>
(Oracle IT Manager News, “Certifying with Oracle” / By Mike Serpe – Global Director for Oracle University)

Oracle 10g (OCP) Certification Preparation

ANY QUESTIONS ?

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