



www.[DanHotka.com](http://www.DanHotka.com)
Quarterly Newsletter

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Summer 2009



Dan Hotka is a Training Specialist who has over 31 years in the computer industry and over 24 years of experience with Oracle products. He is an internationally recognized Oracle expert with Oracle experience dating back to the Oracle V4.0 days. Dan's latest book is the [TOAD Handbook](#) by Pearson. He is also the author of [SQL Developer Handbook](#) by Oracle Press, [Oracle9i Development By Example](#) and [Oracle8i from Scratch](#) by Que and has co-authored 7 other popular books including the [Database Oracle10g Linux Administration](#) by Oracle Press. He is frequently published in Oracle trade journals, and regularly speaks at Oracle conferences and user groups around the world.

Public Training Offerings

Watch for Dan in your area with these courses. Contact Dan for course details and enrollment. Check www.DanHotka.com, click on Onsite Training for course outlines, or just ask Dan.

May 19 - 21 Advanced PL/SQL Programming
(Denver)

June 9 - 11 Oracle SQL Performance and Tuning
(Salt Lake City)

July 28 - 30 Advanced PL/SQL Programming
(Minneapolis)

Aug 18 - 20 Oracle SQL Performance and Tuning
(Minneapolis)

Aug 21 TOAD Tips and Techniques (Minneapolis)

Sept 28 - 30 Oracle SQL Performance and Tuning
(Cork, Ireland)

T Training continues to be active despite the current state of the economy. You can see I keep plenty busy with my public offerings as well as on-site visits.

Notice that I will be in Denver the week of May 19 for my public offering of Advanced PL/SQL Tips and Techniques. This course could easily be named 'Oracle11g New Features for Developers'! This is a 3-day offering for \$995. Contact me with your level of interest.

This newsletter and the Fall 09 newsletter will feature various new Oracle11g features. This newsletter will cover the Result Cache, a feature I hope provides a significant performance increase in repeating SQL and function calls. The Fall newsletter will cover new PL/SQL features.

I'll be at both the Collaborate and at Oracle Open World trade shows. Stop and introduce yourself to me at one of my speaking slots. I'll be giving away SQL Tuning Tip Sheets.

I'm also going to try and do a few more public offering classes this fall. Watch for my announcements. Contact me about offering this training in your area or at your site.

Help me promote a class in your area and you sit in for free!

This newsletter, along with all prior newsletters, are available at www.DanHotka.com.

What's in this issue?

User Group Information:

- See Dan at Collaborate and OOW!
- See page 2 for Dates and Submitted Papers.
- I have several new presentations for User Groups – See New Presentations. A complete list of topics is at <http://www.danhotka.com/>

Oracle11g New Features

An overview of the new Result Cache feature. Page 3

Free Downloads

Free Downloads. Page 6

Product Review

- TOAD ADDM/AWR Reporting!

See page 6.

Book Review

Robert Freeman's book: Oracle Database 11g New Features by Oracle Press.

My articles and presentations on this topic are based on information from this book. See page 5 for this book review.

Educational Offerings

- My Training Pricing Model – up to 15 attendees for one low price!
- On-site at your company or in your city via user group participation...see Educational Offerings on Page 2.

Featured Presentation

- New Presentation to be given at Collaborate: Oracle11g New Features for Developers. See page 6.

The Back Page:

- Charles Fort near Kinsale, Ireland

Puzzler...

What was Oracle's first report writer called? What major release of the database did it first appear? What could it do that was not documented?

Go to www.DanHotka.com for the answer!

User Group Information

See Dan at these events:

Oracle Open World Oct 11 - 15 (San Francisco)

Submitted Speaking Topics
Discoverer10g Tips and Techniques
Oracle11g New Features for Developers
Analytics Tips and Techniques
TOAD Tips and Techniques
www.Oracle.com

I am available to speak at your user group. A complete listing of available topics is on my website.

Let me know what you would like and I can fill your timeslot.

Educational Offerings

Please remember that my portable computer lab make these courses very easy to teach at your site. The cost of this lab is included in my 1-fee pricing model (see below).

2008 has been a year of PL/SQL and SQL Performance Tuning. I have been doing training for 5 years now (where does the time go...) and have noticed definite patterns of training.

My PL/SQL offerings include both Intro to PL/SQL (a 2-day course) and Advanced PL/SQL (a 3-day course). Both courses cover using the Oracle PL/SQL Profiler and other PL/SQL tuning topics.

The focus of my SQL Performance Tuning course is to cover exactly how Oracle arrives at the explain plan, how Oracle uses/includes indexes in these plans, and tuning using a coding style that I find helps keep the tuned SQL stay tuned.

I have adapted this course to 1-day, 2-day, and 3-day offerings. This course also illustrates various tuning tools such as Stats Pack, SQL Trace, and the PL/SQL profiler, as well as advanced topics that include SQL Profiling, finding SQL problems using the V\$ tables, and Oracle10g performance issues.

Training Pricing Model

I price my courses at a fixed rate for up to 15 attendees. This rate compares to the price that others charge for just 2 to 4 attendees. The course fee always includes the use of my portable computer lab. There is a separate per attendee charge that covers the cost of the student guide and any additional books that might be associated with the course. This student fee is anywhere from \$50 to \$150 depending on the course.

Current Course Offerings

Give your technical staff that competitive edge with Oracle Workshops! These courses are designed to enhance your staff's skill set to perform their job better.

These workshops are designed to be held at your location. These courses use my portable computer lab. On-site instruction enables more people to be trained with the same training dollar.

The course utilizes a variety of current tools. Students will have the opportunity to learn more about SQL Developer, TOAD, TextPAD, as well as the Oracle tools like SQL*Plus, iSQL*Plus, and Dan's new Java-based SQL Tuner.

- **Oracle SQL Performance Tuning Tips and Techniques (1-day, 2-day, or 3-day offerings)**
- **TOAD for IT Staff**
- **SQL Developer for IT Staff**
- **Oracle Analytics/Answers for End Users**
- **Oracle Analytics for Administrators**
- **Oracle Discoverer for End Users**
- **Oracle Discoverer for Administrators**
- **Introduction to Oracle (SQL)**
- **Oracle Intro to PL/SQL**

- **Oracle Advanced PL/SQL**
- **Oracle Fundamentals**
- **Oracle10g New Features for Developers**
- **Introduction to UNIX/Linux**
- **UNIX/Linux Shell Programming**
- **Oracle/Unix Scripting Tips and Techniques**

Oracle11g New Features

Result Cache

The result cache is a new area to the Oracle11g database. This cache is designed to hold the result set from either or both repeating function calls and/or repeating SQL.

I feel this could create a significant performance increase for certain types of common SQL and function calls!

This is an excerpt from my SQL Performance Tuning Class and my Oracle11g New Features for Developers.

The official title is: Oracle11g Client Query Result Cache: It works by storing the results from functions being called accessing the same objects using the same in_vars contents. It also tracks the results from SQL accessing the same objects with the same where clause predicates.

SQL needs a /*+ RESULT_CACHE */ hint and Functions need to be compiled with RESULT CACHE syntax in the header.

The results from the execution of a SQL or Function with this syntax is stored in the SGA in the new Result Cache Memory structure. Any session can then benefit from running the same function with the same in parameters or the same SQL with the same where clause predicates. Instead of executing the function or SQL, the result cache is checked to see if a previous result exists, and if it does...this result set is returned instead of re-executing the SQL or function!

Think about this...especially functions that make database calls! This feature should be of great assistance to repeating SQL and function calls, particularly those that return single rows or smaller result sets (the results will sit in the result cache longer).

The result cache structure is easily sized and monitored. Use these init.ora settings to size and maintain the result cache contents:

- RESULT_CACHE_MAX_SIZE
0 disables it
Size in bytes in increments of 32K
Initially defaults to 10% Shared Pool Size
- RESULT_CACHE_MAX_RESULT
 - o 0 to 100
Percentage of RESULT_CACHE_MAX_SIZE
single result can take

The result cache can be monitored using these dynamic performance views:

- V\$RESULT_CACHE_STATISTICS
- V\$RESULT_CACHE_MEMORY
- V\$RESULT_CACHE_OBJECTS
- V\$RESULT_CACHE_DEPENDENCY

RESULT_CACHE from function calls

- IF same function called with same in_vars
- First result cache returned instead of rerunning the function!
- Results stored in the SGA...any session running the function can benefit!

First Function call executes, second one accesses the cached results from the first!

```
SQL> select get_dname(10) DNAME from dual;
SQL>
```

```
DNAME
-----
CHICAGO
```

```
SQL> Time: 00.00.01
```

```
SQL> select get_dname(10) DNAME from dual;
SQL>
```

```
DNAME
-----
CHICAGO
```

```
SQL> Time: 00.00.00
```

Function Syntax required:

```
SQL> create or replace function get_dname (in_deptno
number) return in_dname varchar2 RESULT_CACHE
As
```

...

The result cache from SQL is processed in a similar maner.

- IF same SQL ran from any session:
- First result cache returned instead of rerunning the SQL!
- Appears to work with bind variables
- Init.Ora settings:
- RESULT_CACHE_MODE [MANUAL | FORCE]
Manual...must use RESULT_CACHE hint
FORCE...always uses result cache unless NO_RESULT_CACHE used

First SQL executes, second SQL accesses cached result set!

USER1

```
SQL> select /*+RESULT_CACHE */ ename from emp;
SQL>
```

```
ENAME
-----
SMITH
```

```
SQL> Time: 00.00.10
```

```
SQL>
```

USER2

```
SQL> select /*+RESULT_CACHE */ ename from emp;
SQL>
```

```
ENAME
-----
SMITH
```

```
SQL> Time: 00.00.00
```

```
SQL>
```

This feature should significantly improve performance for those applications that commonly submit the same SQL and values to the same function calls.

Let me know how well it works for you.



TOAD 9.7 now has the ability to see the dynamically-collected information in the ADDM and AWR repositories of Oracle10g and 11g databases!

11g New Features for Developers presentation and to update my courseware Advanced PL/SQL Programming Tips and Techniques.

I look forward to acquiring one of these books for each major release of the Oracle database. I read it from cover to cover. Robert does an excellent job with the new features and working examples.

This book starts off with useful migration tips. It contains complete units on ASM, AMM, ADDM, AWR, Scheduler, Parameters, and Resource Manager.

Chapter 3 covers all the new and updated recovery features.

Chapter 4 covers new and updated advisories. Change management, security, and BI/DW are all covered as well.

I focused on Chapter 8 because it deals with the changes to SQL*Plus, SQL, and PL/SQL.

The Automatic tuning features are covered in depth and there is a chapter for everything else including XMLDB and Java.

Tom Kyte did the forward and Arup Nanda has featured contributions.

This is a 'must have' book when moving forward with Oracle11g.

Nice job Robert.



Featured Presentation

Oracle11g New Features for Developers

This presentation is a must-see for anyone migrating to the new Oracle11g Database. The focus of this presentation is new features that would be of interest to developers.

Dan covers:

- Flashback topics
- Database Replay
- Database Result Cache
- SQL*Plus new commands
- New SQL Syntax Options
- PL/SQL Enhancements including:
 - New Compiler Options
 - Triggers
 - Dynamic SQL

Free Downloads

TOAD www.ToadSoft.com

SQL Developer

<http://www.oracle.com/technology/software/products/sql/index.html>

Oracle Documentation – Oracle has done a fine job of a nice hyper linked set of documents that makes finding the topic of interest a snap! Kind of a large download but worth the wait! This page has the current Oracle 11g doc set as well as links to just about all of Oracle's documentation libraries.

<http://www.oracle.com/technology/documentation/databases.html>

Oracle PL/SQL Profiler Paper and Script: Learn how to use this free PL/SQL profiler from Oracle Corp. The paper also covers using the PL/SQL Profiler from TOAD. Download this paper and script from www.DanHotka.com.

Email Dan at Dhotka@Earthlink.net for any of these items:

- **Oracle SQL Trace Start and Stop Scripts:** Use these scripts to start and stop the Oracle Trace.
- **JS Tuner:** This tool will assist you with enhanced explain plans and useful index info/hints/and SQL history at your fingertips.
- **JS Analyzer:** This tool makes running the character-mode TKProf and SQL*Plus interface Trace Analyzer a snap. No more typing long trace file names.
- **SHOW_PLAN.sql:** Use to give an explain plan from the PLAN_TABLE that shows the statement ID relationships.

The Back Page

Charles Fort, Kinsale, Ireland

I visited this 17th century earthen fort south of Cork. It was a damp chilly day the first weekend in March (2009) but the fort was easy to find and there were not many people there.

This is Charles Fort, just to the east of Kinsale along the harbor.



Kinsale dates back to the 6th century as a Vikings trading port. The Normans walled the town in the 13th century and established a trading base. By the end of the 16th century, Kinsale had become one of the most significant towns on the south coast.

Charles Fort was constructed in the late 17th century and sported the newer star-shaped fortifications that supported crossfire protection from any side being attacked. The first 2 seaward bastions were completed in 1681. The 15th century leads to the advent of artillery and the older medieval castle type and other defensive structures became obsolete. Earthen forts were better protected from cannon fire and the star-shape allowed for better protection of the exterior walls from ground assaults.

The fort (built by the English) played major roles in Irish history thru the years...defending against the Dutch and French in the late 1600's, occupied by the British during the Napoleonic War. The fort had been used for training until their withdraw in 1921. The fort fell into ruin/decay until it was taken into State care as a National monument in 1973.