



# Oracle and Toad Course Descriptions

**Instructor: Dan Hotka**

Give your technical staff that competitive edge with these hands-on workshops. These courses are designed to enhance your staffs skill set to perform their job functions better. Authored Expert Dan Hotka has over 34 years experience with the Oracle RDBMS and Toad products and has designed the following courses to meet the demands of today's computing environment.

Each of these courses has a full descriptive course outline. Ask Dan for the complete outlines, describe your needs, and ask for a quote.

These workshops are designed to be held on-site, at your location, or over the web.

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

Jump to [Toad](#)

Jump to [Toad Data Point](#)

Jump to [PL/SQL Topics](#)

Jump to [Scripting and Unix/Linux Topics](#)

## **Oracle SQL Performance Tuning Tips and Techniques for Developers (2-days or 4 half-days over the web):**

This course is designed for the Oracle professional with novice or no SQL tuning skills.

The course starts out with a complete overview of the Oracle architecture so students can get an understanding how their SQL and applications can take advantage of the computing environment. This course goes in-depth on understanding and controlling the explain plan (how Oracle retrieves data and in what order). The discussions include the differences of the various Explain Plan steps such as Merge-Join and Nested-Loop, and when is it best to use each. Dan goes into considerable detail, with SQL examples, on how the optimizers (both rule-based and cost-based but mostly cost-based) make their decisions. Students will work with a variety of SQL statements, reviewing explain plans and making changes to make these SQL statements perform better. Lectures include index design, using hints and coding style to control the explain plans, and how to use useful tools such as index monitoring, SQL Trace, and the PL/SQL profiler. This course

takes a close look at indexes: how Oracle selects them, why they are sometimes not used, and how to tell if indexes are being used/not being used.

The focus this course is tuning SQL via coding style. The instructor finds that tuning in this fashion maintains the performance of the SQL when migrating to other Oracle environments (upgrades to newer releases).

Lectures and topics are enhanced with live illustrations and hands-on exercises.

Topics covered includes:

- Oracle Architecture from a SQL Performance point-of-view
- Understanding SQL Tuning Statement Topics
- Reading Explain Plans/Understanding Explain Plans
- Controlling both the Cost-based and Rule-based Optimizers
- A close look at Indexes – how they work and how they are selected
- SQL Tuning via coding style
- Oracle Trace Facility – collecting SQL and interpreting using TKProf
- Profiling PL/SQL, PL/SQL Coding Tips

### **Advanced Oracle SQL Performance Tuning Tips and Techniques (3-day or 5 half days over the web):**

The focus of this tuning course is to cover advanced SQL performance tuning topics for those Oracle professionals that already have a SQL tuning background. This course is perfect for DBA's that need the additional background to solve the more difficult problems.

This course covers a number of advanced topics such as Index clustering factor, Oracle10g Tablespace options that affect index performance, various Oracle traces including the 10053 Cost-Based Optimizer trace and sizing the SORT\_AREA\_SIZE and HASH\_AREA\_SIZE using the 10053, 10033, 10034, and 10104 traces. Lectures include an in-depth look at various SGA structures such as buffer cache options and sizing, library cache and cursor sharing, and Oracle fragmentation and locking issues/data block internals. Students will also experience how to monitor their application environment, their indexes, and see how to find problem SQL in their applications using Stats Pack, SQL Trace, AWR, SQL Tuning Advisor, and the V\$ dictionary tables (using a variety of supplied SQL\*Plus scripts). This course takes a close look at indexes: how Oracle selects them, why they are sometimes not used, and how to tell if indexes are being used/not being used.

Lectures and topics are enhanced with live illustrations and hands-on exercises.

This course shows how to use TOAD, SQL Developer and SQL\*Plus for SQL Performance Tuning.

Topics covered includes:

- Oracle Architecture from a SQL Performance point-of-view
- Review of Reading Explain Plans/Understanding Explain Plans
- Review of CBO Hints
- A close look at Indexes – how they work and how they are selected and advanced topics such as clustering factor and other reasons indexes may NOT be selected
- Oracle Trace Facility/Stats Pack/Wait Events
- Tracing wait events back to the problem SQL
- Oracle AWR and new tools such as SQL T are covered
- Profiling PL/SQL, PL/SQL Coding Tips
- SGA topics include:
  - Buffer Cache options and sizing
  - Library Cache utilization/internals including cursor-sharing topics
  - Oracle11g Result Cache
- Oracle10g Tablespace options that affect indexes
- Oracle data block internals and fragmentation reviewed
- Finding various problems using the V\$ dictionary tables with scripts

### **Combined Oracle SQL Performance Tuning Tips and Techniques:**

- The above courses can be blended for a complete SQL Performance Tuning 3-day course (or 5 half-days over the web).

### **Toad Tips and Techniques (1-day)**

Dan will illustrate the latest features of Toad necessary to view, extract, and manipulate data within the Oracle database. This workshop covers all of the features necessary to develop, manipulate, and debug PL/SQL code, develop & tune SQL statements, and discover all of the features of Toad. This short course will also cover exactly how to put Oracle data into Excel spreadsheets and take data in Excel spreadsheets and put it back into the Oracle database! Dan will also show how to see the data relationships of the application data and how to view this data.

### **Introduction to Toad (1/2 day)**

Toad for Oracle Introduction Training Course - This hands-on course is aimed at the Oracle professional who wishes to increase their individual or their group's productivity by utilizing Toad. This half-day course will cover Toad for Oracle setup, SQL Editor and Schema Browser functions, and Additional Features.

## **Toad Data Point for End Users (2 days)**

Give your technical staff that competitive edge with this Workshop for end users. This course introduces students to the querying and analytical capabilities of using Toad Data Point and Intelligence Central. Students will learn to load/modify/save data, create spreadsheets and other deliverables, and refine/run ad hoc queries. They will learn to view, chart, and analyze multidimensional data. They will also learn to produce individual ad hoc reports and make these reports and information easy to access via dash boards. Lectures are supported by hands on student lab exercises.

This course is customizable to your specific staff needs and yes, we can use your company data with the course/labs.

Optional 3<sup>rd</sup> Oracle SQL Training

### **Topics covered:**

- Introduction/Analytics Overview
- Toad Data Point and data warehouse overview
- Introduction to Toad Data Point and Intelligence Central
- Toad Data Point Quick Start
- Working with various data sources
- Transform and cleanse data
- Accessing data in various data stores and formats
- Apply Joins and Conditions
- Introduction to Query Builder
- Data Manipulation including transform, cleanse, views, and snapshots
- Working with SQL, functions, and code snippets
- Visualization Techniques in formatting Data/Views/Graphs
- Export/Import of connections and other maintenance items
- Work Flow tips and techniques
- Automation and scheduling for any Toad Data Point task
- Includes Data Compare, Snapshot management, Project Manager, and working with Intelligence Central

## **Toad Data Point Workflow for End Users (1 day)**

Give your technical staff that competitive edge with this Workshop for end users. This course introduces students to the querying and analytical capabilities of using Toad Data Point using the Work Flow module. Students will learn to load/modify/save data, create

spreadsheets and other deliverables, and refine/run ad hoc queries. They will learn to view, chart, and analyze multidimensional data. They will learn via lecture and lab exercises.

This course is customizable to your specific staff needs and yes, we can use your company data with the course/labs.

Optional 2<sup>nd</sup> day Oracle SQL Training

**Topics covered:**

- Introduction/Analytics Overview
- Toad Data Point and data warehouse overview
- Installation setup and customization
- Toad Work Flow
  - Similar technology found in other tools like Hyperion
- Query Builder
  - Includes how to add your SQL from other applications
- Reporting/Dashboards/Spreadsheets

**Oracle SQL for End Users (1-day):**

This course is excellent for users and managers who simply need to know more about Oracle SQL.

- Select Statements
- Joins
- ANSI SQL
- Group By
- Analytical SQL

**Toad Data Point and Intelligence Central Advanced Topics (1 day)**

**\*\*\*not written...I need a larger opportunity (ie: not just 1 time...)\*\***

Give your senior analysts and support staff the knowledge they need to best install and maintain a robust Toad Data Point and Intelligence Central environment. The morning will cover install and setup topics and the afternoon will take a more advanced look at reporting using Excel and automating tasks both locally at the work station and centrally so is easily shared and maintained at the department or server levels. Lectures are supported by hands on student lab exercises.

**Topics covered:**

- Introduction to Toad Data Point and Intelligence Central

- Toad Data Point Installation and Configuration Topics
- Toad Intelligence Central Installation and Configuration Topics
  - Includes working with Active Directory for login/security
- Toad Data Point Advanced Excel Topics
- Additional Automation Topics
  - Includes automating via Intelligence Central



## **Introduction to PL/SQL (2-day):**

The attendees have the opportunity to construct various PL/SQL routines to solve simple and complex business questions. Dan will cover how to code PL/SQL, access data in a variety of methods, error handling, and will touch on debugging PL/SQL.

### **Topics covered:**

- Oracle Architecture
- Introduction to PL/SQL
  - Syntax and language structure
- PL/SQL Topics
  - Cursor management
  - Exception handling
  - Procedures/Functions/Triggers
  - Packages
  - Collections

## **Advanced PL/SQL Tips and Techniques (3-day):**

The attendees have the opportunity to learn a variety of advanced PL/SQL techniques including advanced cursor management/cursor sharing, code sharing, code debugging, transaction management, and more. This course includes a variety of Oracle performance techniques and also is a good overview of Oracle10g and Oracle11g new PL/SQL features.

### **Topics covered:**

- Oracle Architecture
- Introduction to PL/SQL
  - Syntax and language structure review
- PL/SQL Topics
  - Package Usage (both User Defined and Oracle Defined Packages)
  - Compiling options
  - Cursor Sharing/Cursor Variables
  - Collections
  - Dynamic SQL
  - Autonomous Transactions
  - Working with Large Objects
  - PL/SQL Coding Tips
  - Debugging PL/SQL

- Profiling PL/SQL

### **Oracle/Unix Scripting Tips and Techniques (3-days):**

This course is perfect for those who know Oracle but are new to Unix. Dan has assembled many of his Oracle/SQL\*Plus/Unix scripting techniques into a single course. This course covers scripting techniques for Oracle, Oracle SQL\*Plus, Unix/Linux, and mixing Oracle and Unix/Linux together.

- Introduction to ‘tools of the trade’ – various editors in Today’s scripting world
- Introduction to shell programming
- SQL\*Plus Reporting and Web reporting techniques
- SQL creating SQL
- Building Oracle data-driven scripts
- Unix Shell Programming: Paging Script, Monitoring Scripts, Scripts to Automate Repetitive tasks
- Oracle/Unix Shell Techniques



Dan offers the following training as well...

These classes are available on-site, in your own training center or conference room.

[Introduction to UNIX/Linux \(2 days\)](#)

[UNIX/Linux Shell Programming \(2 days\)](#)

## ***All Courses Include:***

Lectures and topics are enhanced with live illustrations and hands-on exercises.

Course descriptions are available at [www.DanHotka.com](http://www.DanHotka.com) .

### **Attendees Receive:**

- Study guide with presentations and relevant white papers
- Most workshops include a relevant book
- Diskette full of tuning and problem discovery scripts
- Opportunity to ask the tough Oracle questions
- A hands-on opportunity to learn more about Oracle

## ***About Dan Hotka:***

Dan Hotka is a Training Specialist and an Oracle ACE Director Alumni who has over 39 years in the computer industry, over 34 years of experience with Oracle products. His experience with the Oracle RDBMS dates back to the Oracle V4.0 days. Dan enjoys sharing his knowledge of the Oracle RDBMS. Dan is well-published with 14 Oracle books and well over 200 printed articles. He is frequently published in Oracle trade journals, regularly blogs, and speaks at Oracle conferences and user groups around the world.

Dan Hotka - Author/Instructor/Oracle Expert  
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## **Reference from one client to a prospective client:**

*As Coordinator of Human Resources Development, I oversee training and development for all of our employees (approximately 1400 employees).*

*In May of this year, I hired Dan Hotka as an independent contractor to train 36 of our programmers on our campus. Dan worked with one of our IT managers and myself to customize a SQL Tuning and Troubleshooting program that would meet our specific training needs.*

*The resulting program exceeded our expectations, and our employees came out of the training with skills that they were able to immediately apply to their jobs.*

*From my perspective, one of Dan's greatest strengths as a trainer is that he has real world experience using the software. He's not just a trainer who has learned the software and teaches a class. When I contract with a trainer, I expect him to be able to answer specific questions that our employees have about the work they are doing. Dan was able to take on that consulting role and apply the software to the work we are doing here.*

*We have recently approved our development plans for FY04, and I am certain that we will be working with Dan to develop training programs again this year. I would most definitely recommend Dan Hotka to our best clients because of the real world experience he brings to the classroom and his willingness to meet our specific training needs.*

*Regards,*

*(name and company withheld by request)*

*Coordinator Human Resources Development not-for-profit organization  
Iowa City, IA*