QUEST SOFTWARE

DISCOVER, DIAGNOSE, RESOLVE (PART 2):

TOAD™ FOR IBM DB2® XPERT

Agenda

- What is Toad™?
- Functional overview of Toad™ for IBM DB2® 1.0
- SQL Optimizer™
- Scalability testing with Benchmark Factory®
- Live demo

Toad™ for IBM DB2® and the Business Environment

About Toad™

- Industry-leading and award-winning database development and administration tool that maximizes developer productivity and application code quality
- Simplifies skills migration for developers needing to write code for more than one RDBMS
  - More than *500,000* customers trust Toad™ for Oracle for their database development needs
- Provides an interactive community of peers to support the user experience

Toad™ for IBM DB2® and Developers

Toad™ for IBM DB2 on Linux, Unix and Windows provides everything DB2 developers need for:

- Knowledge exchange and online collaboration with other DB2 development experts
- SQL code development and deployment
- Reliable DB2 object management
- DB2 project management

Toad™ Online Community

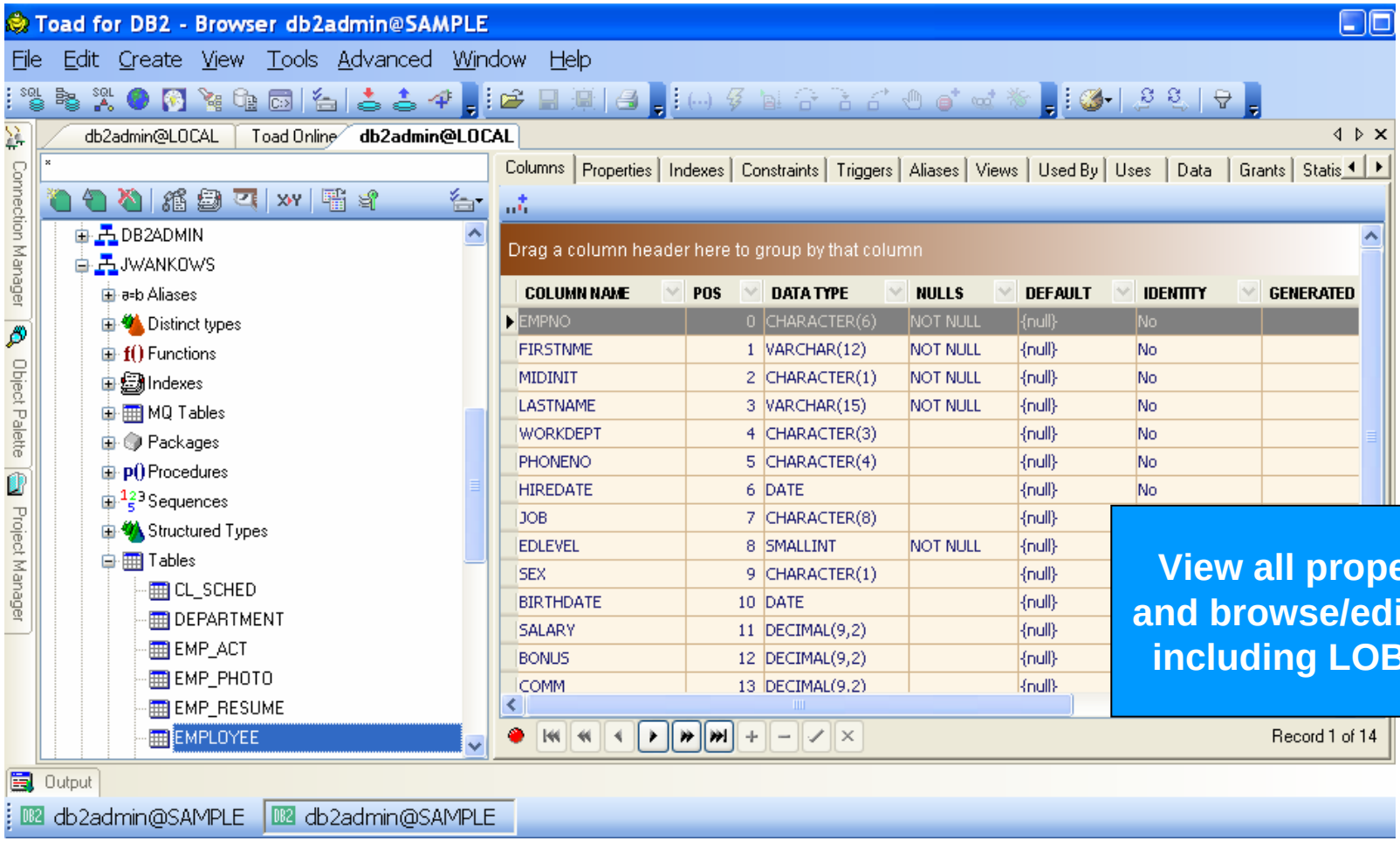
Knowledge exchange and online collaboration with other DB2 development experts

- Interactive community support from both peers and industry experts:
  - Online discussion groups
  - Quest Pipelines Web site and newsletters
  - Toadsoft.com

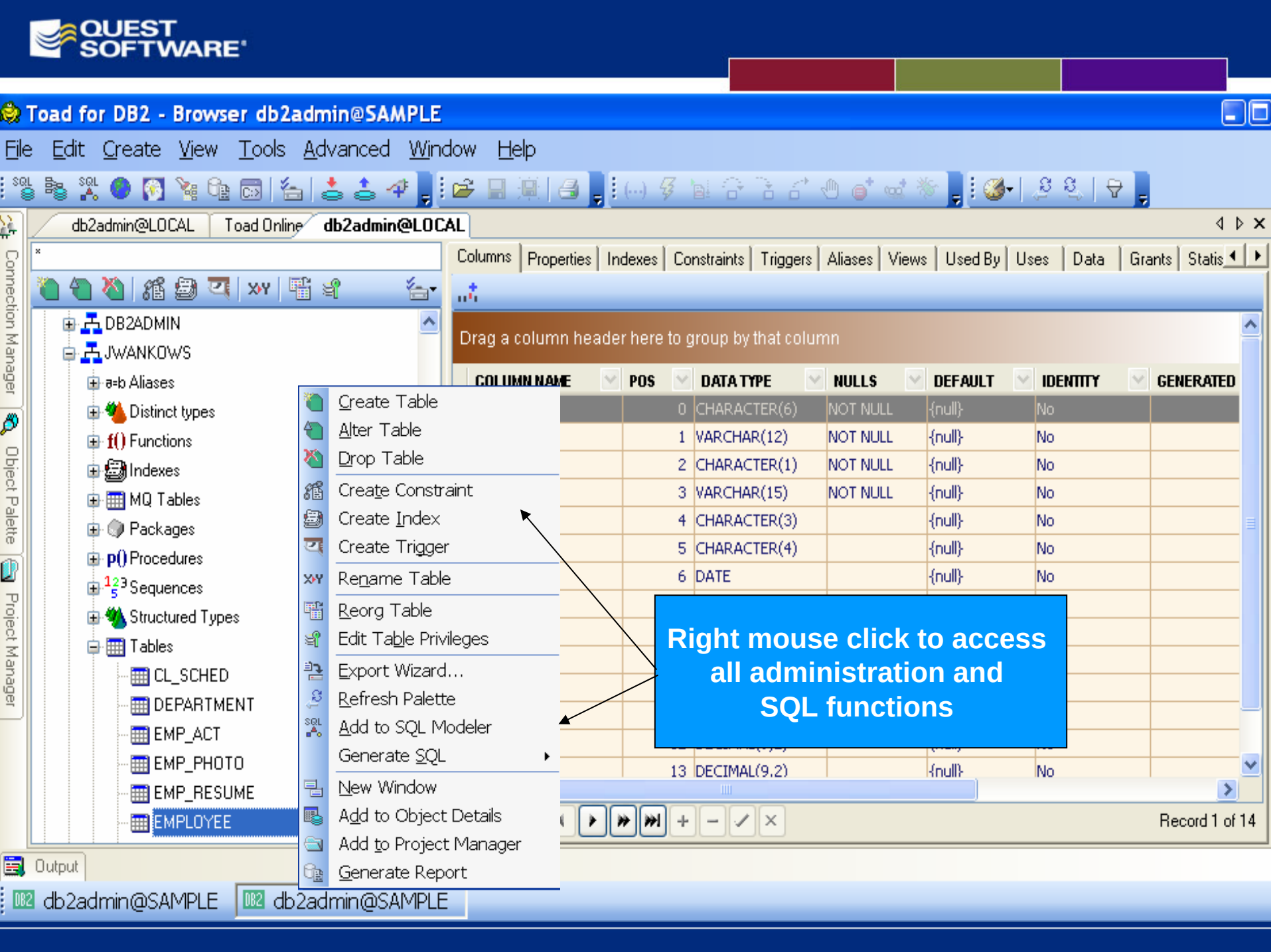
Object Management

- Easily manage objects with create, alter and drop functionality
- Database object search permits location of:
  - Object names
  - Text in objects that include source code
  - Variable names or comments in object source code
- Schema Compare

Toad™ for IBM DB2® Catalog Browser



View all properties and browse/edit data, including LOB data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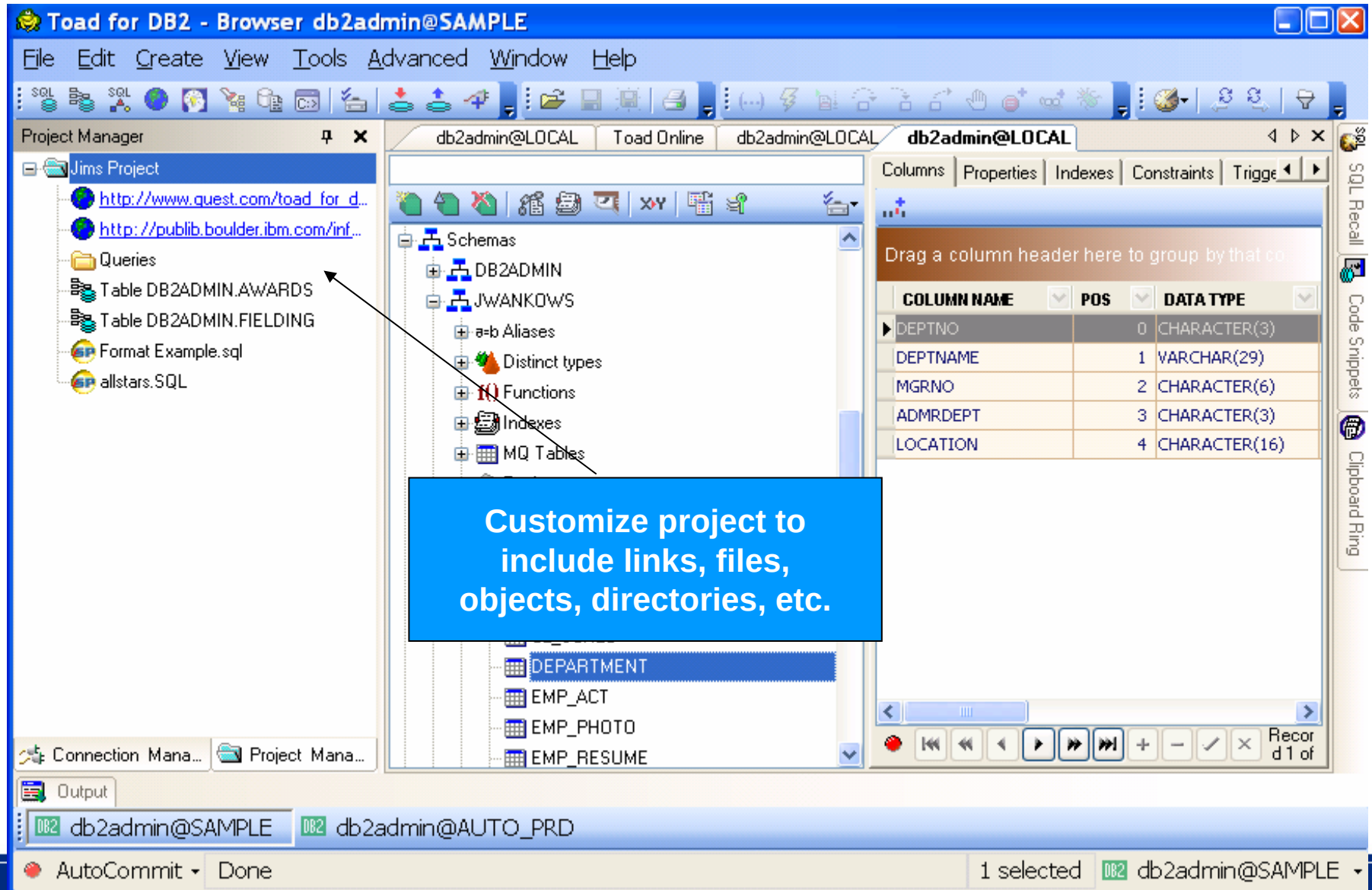
Toad for DB2 - Browser db2admin@SAMPLE
File Edit Create View Tools Advanced Window Help
db2admin@LOCAL
Toad Online
db2admin@LOCAL
Columns Properties Indexes Constraints Triggers Aliases Views Used By Uses Data Grants Statis
Drag a column header here to group by that column
COLUMN NAME
POS
DATA TYPE
NULLS
DEFAULT
IDENTITY
GENERATED
0 CHARACTER(6) NOT NULL {null} No
1 VARCHAR(12) NOT NULL {null} No
2 CHARACTER(1) NOT NULL {null} No
3 VARCHAR(15) NOT NULL {null} No
4 CHARACTER(3) {null} No
5 CHARACTER(4) {null} No
6 DATE {null} No
13 DECIMAL(9,2) {null} No
Record 1 of 14
DB2ADMIN
JWANKOWS
a=b Aliases
Distinct types
f() Functions
Indexes
MQ Tables
Packages
p() Procedures
Sequences
Structured Types
Tables
CL_SCHED
DEPARTMENT
EMP_ACT
EMP_PHOTO
EMP_RESUME
EMPLOYEE
Create Table
Alter Table
Drop Table
Create Constraint
Create Index
Create Trigger
Rename Table
Reorg Table
Edit Table Privileges
Export Wizard...
Refresh Palette
Add to SQL Modeler
Generate SQL
New Window
Add to Object Details
Add to Project Manager
Generate Report
Right mouse click to access all administration and SQL functions
Output
db2admin@SAMPLE
db2admin@SAMPLE
Connection Manager
Object Palette
Project Manager

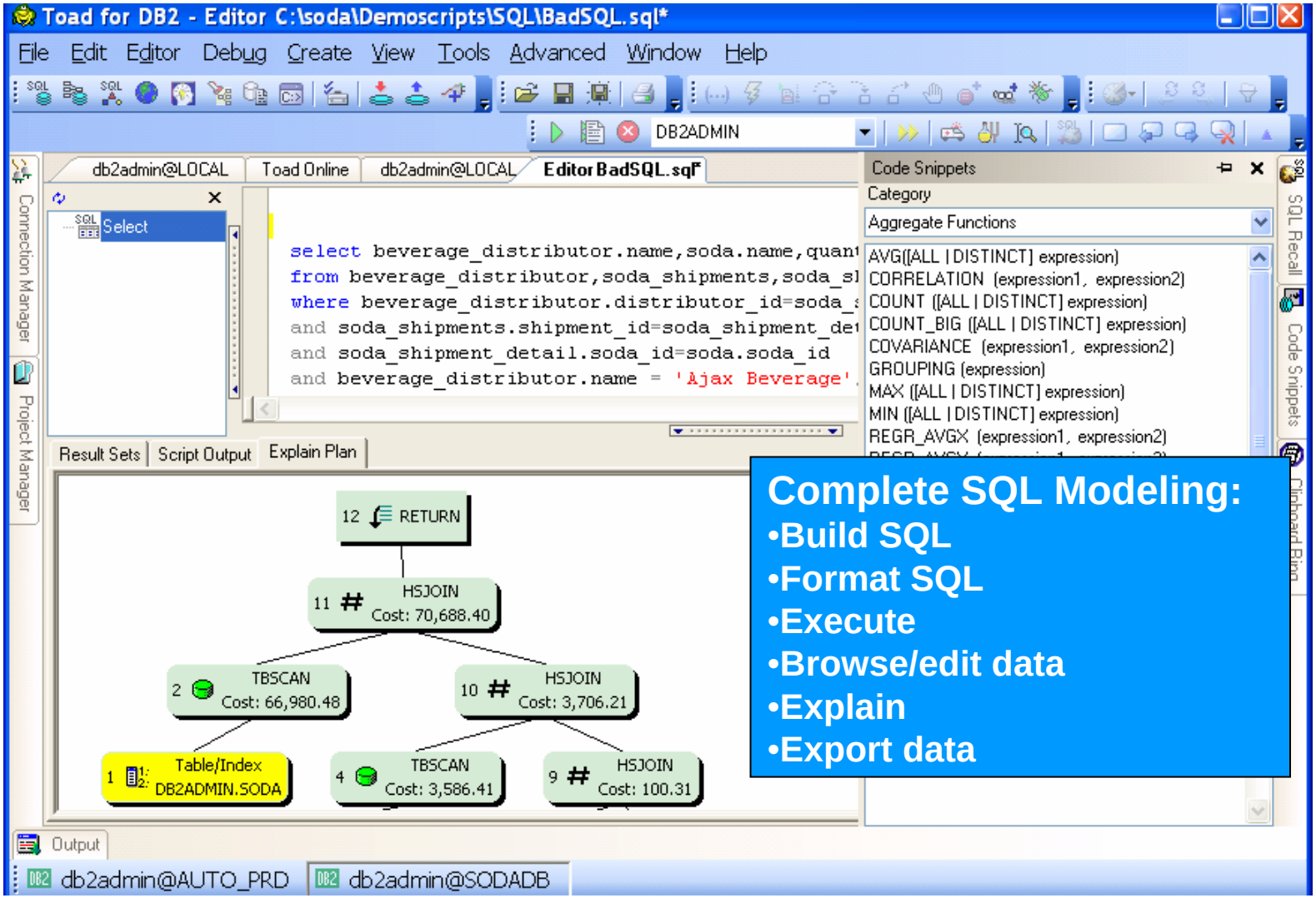
Project Management



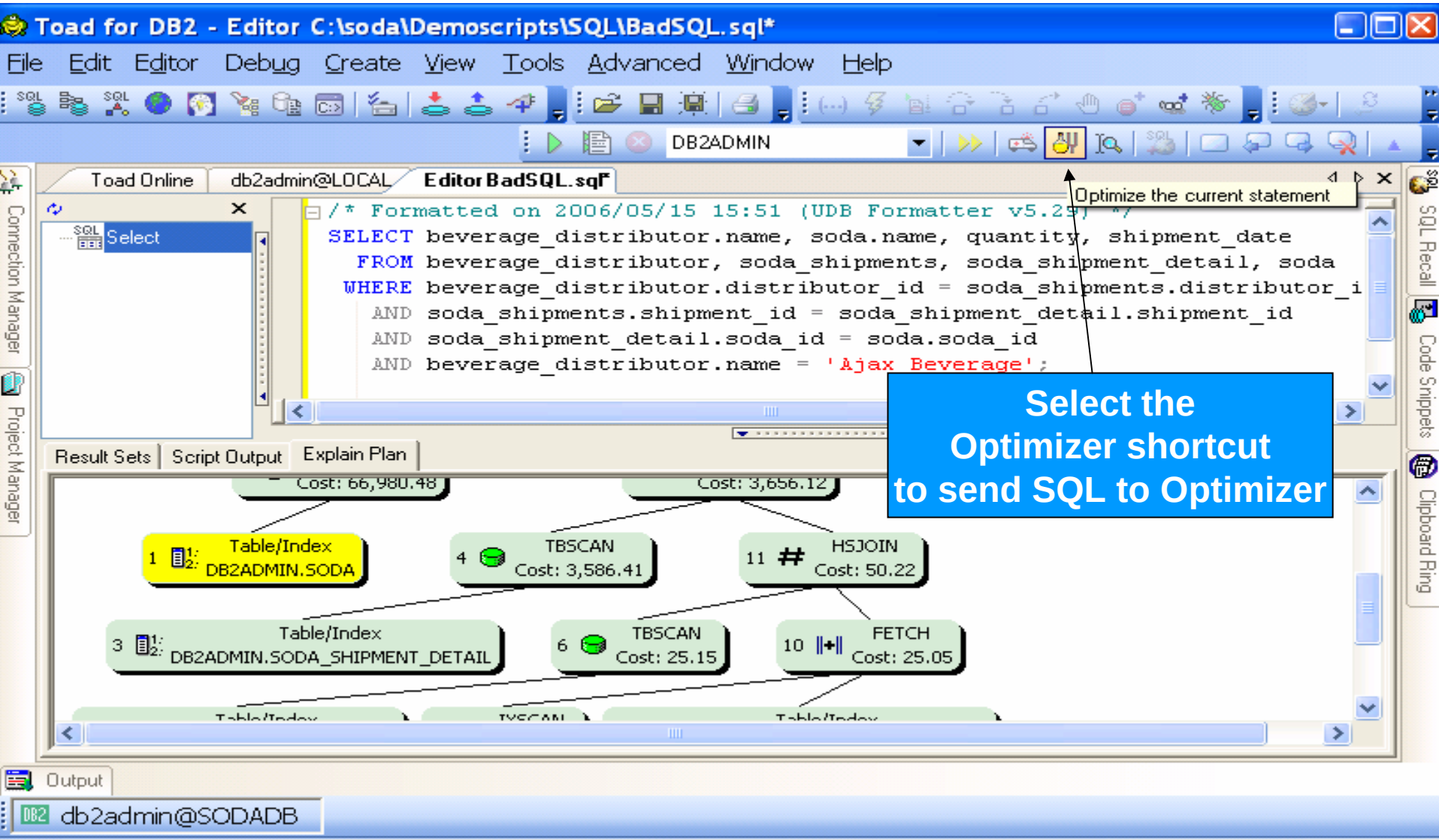
SQL Editor

- SQL modeling to automate creation of commonly used statements
- Formatting and debugging features that simplify SQL and Stored Procedure refinement.
- SQL EXPLAIN, plus optional integration with Quest's SQL Optimizer™
- Scalability testing with integration with Benchmark Factory®

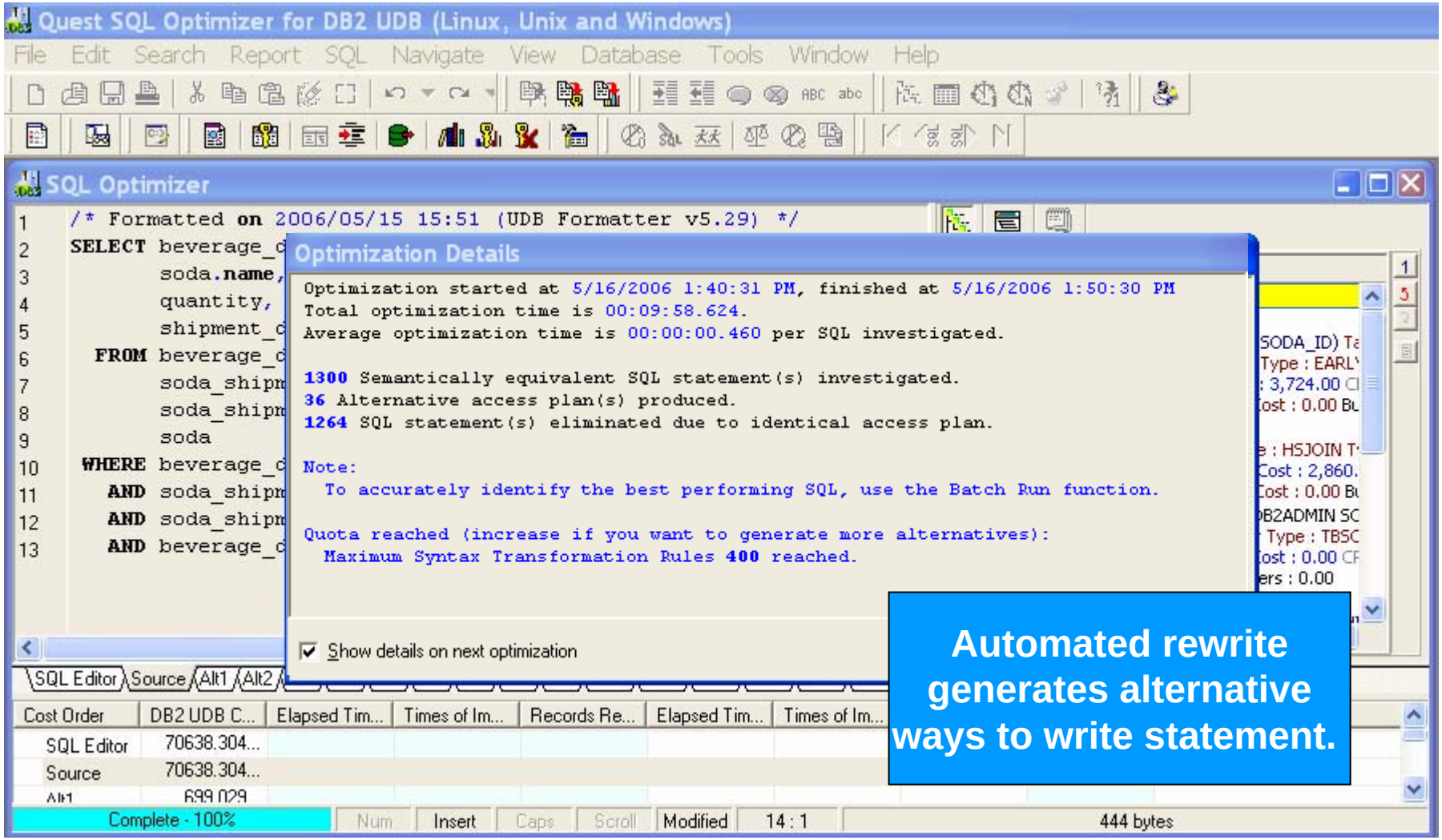
SQL Editor

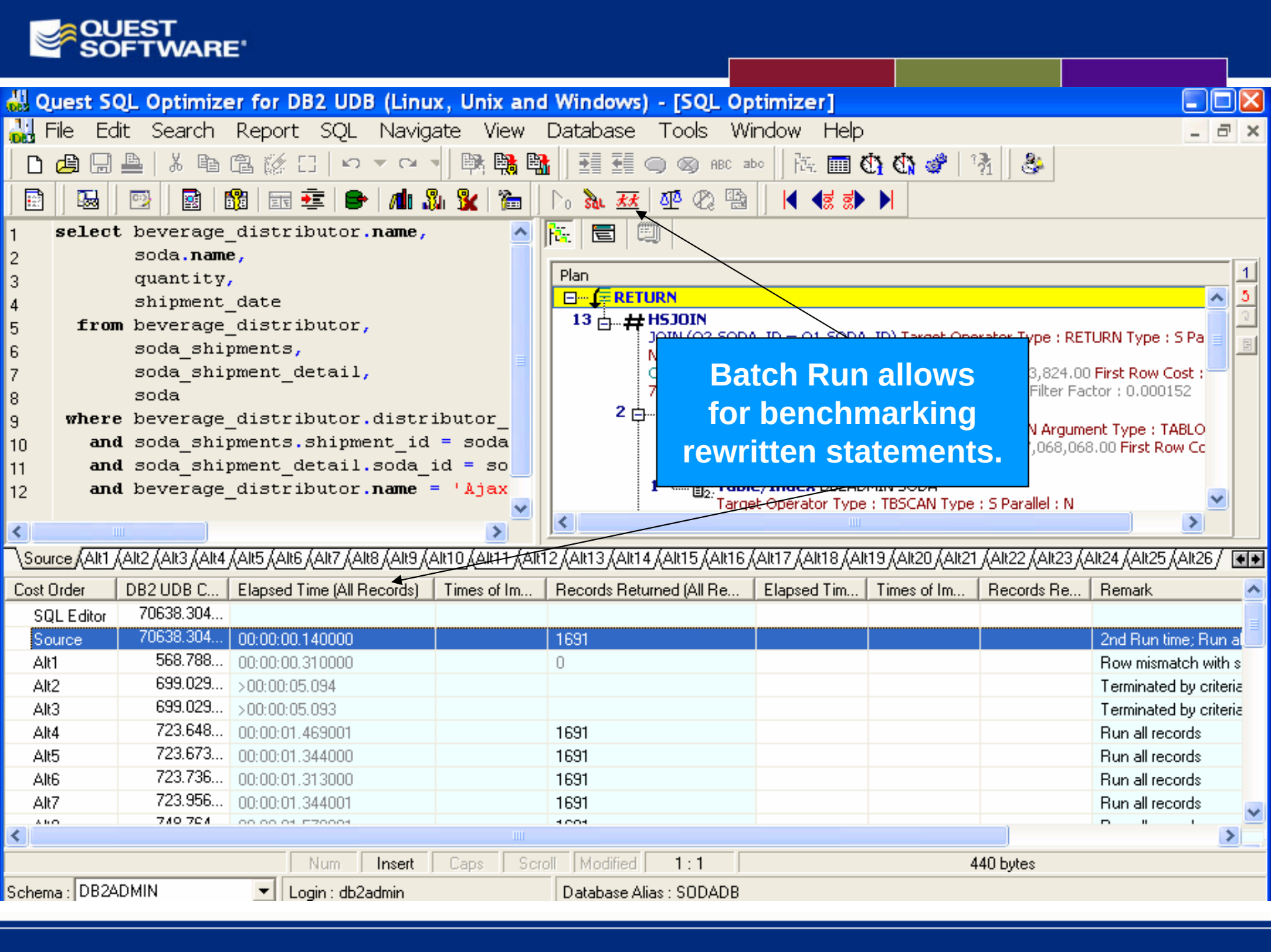

Toad for DB2 - Editor C:\soda\Demoscripts\SQL\BadSQL.sql*
File Edit Editor Debug Create View Tools Advanced Window Help
DB2ADMIN
db2admin@LOCAL
Toad Online
db2admin@LOCAL
Editor BadSQL.sqf*
Select
select beverage_distributor.name,soda.name,quan
from beverage_distributor,soda_shipments,soda_s
where beverage_distributor.distributor_id=soda_
and soda_shipments.shipment_id=soda_shipment_de
and soda_shipment_detail.soda_id=soda.soda_id
and beverage_distributor.name = 'Ajax Beverage'
Code Snippets
Category
Aggregate Functions
AVG([ALL | DISTINCT] expression)
CORRELATION (expression1, expression2)
COUNT ([ALL | DISTINCT] expression)
COUNT_BIG ([ALL | DISTINCT] expression)
COVARIANCE (expression1, expression2)
GROUPING (expression)
MAX ([ALL | DISTINCT] expression)
MIN ([ALL | DISTINCT] expression)
REGR_AVGX (expression1, expression2)
Result Sets
Script Output
Explain Plan
12 RETURN
11 HSJOIN Cost: 70,688.40
2 TBSCAN Cost: 66,980.48
10 HSJOIN Cost: 3,706.21
1 Table/Index DB2ADMIN.SODA
4 TBSCAN Cost: 3,586.41
9 HSJOIN Cost: 100.31
Output
db2admin@AUTO_PRD
db2admin@SODADB
Complete SQL Modeling:
•Build SQL
•Format SQL
•Execute
•Browse/edit data
•Explain
•Export data

Integration with SQL Optimizer™



SQL Optimizer™

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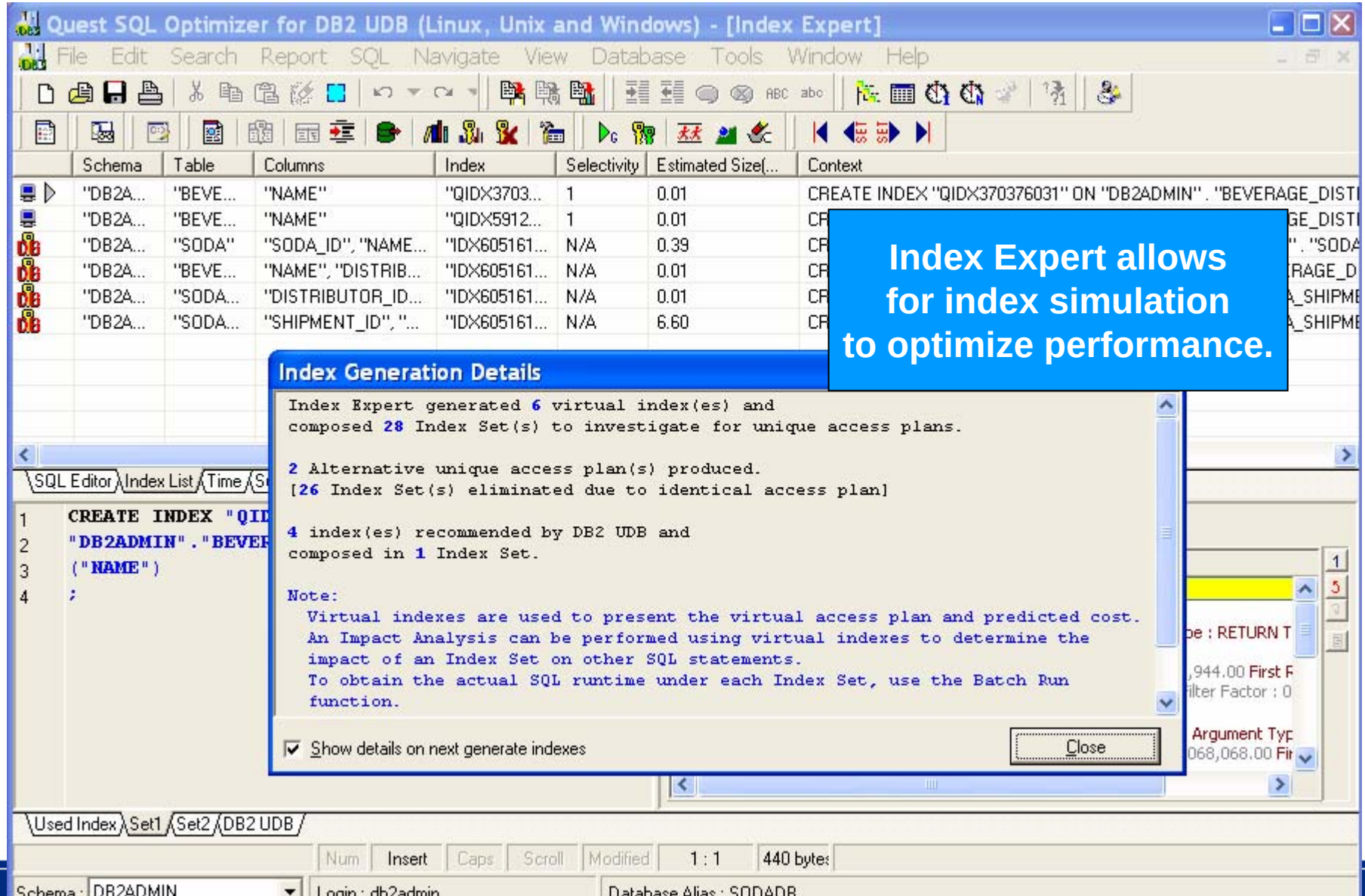
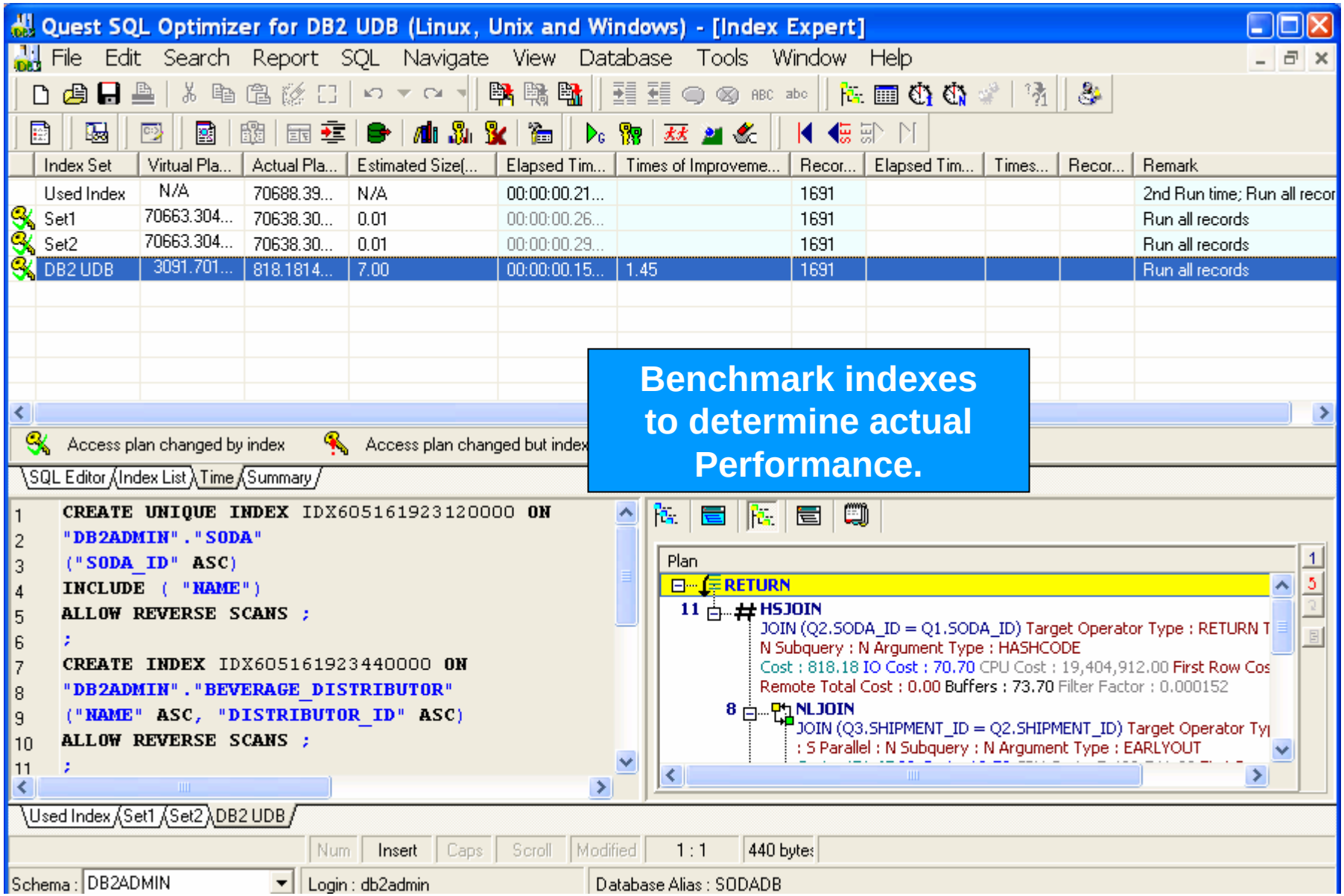
Quest SQL Optimizer for DB2 UDB (Linux, Unix and Windows) - [SQL Optimizer]
File Edit Search Report SQL Navigate View Database Tools Window Help
select beverage_distributor.name,
soda.name,
quantity,
shipment_date
from beverage_distributor,
soda_shipments,
soda_shipment_detail,
soda
where beverage_distributor.distributor_
and soda_shipments.shipment_id = soda
and soda_shipment_detail.soda_id = so
and beverage_distributor.name = 'Ajax
Plan
RETURN
HSJOIN
Target Operator Type : TBSCAN Type : S Parallel : N
Batch Run allows for benchmarking rewritten statements.
Source Alt1 Alt2 Alt3 Alt4 Alt5 Alt6 Alt7 Alt8 Alt9 Alt10 Alt11 Alt12 Alt13 Alt14 Alt15 Alt16 Alt17 Alt18 Alt19 Alt20 Alt21 Alt22 Alt23 Alt24 Alt25 Alt26
Cost Order | DB2 UDB C... | Elapsed Time (All Records) | Times of Im... | Records Returned (All Re... | Elapsed Tim... | Times of Im... | Records Re... | Remark
SQL Editor 70638.304...
Source 70638.304... 00:00:00.140000 1691 2nd Run time; Run a
Alt1 568.788... 00:00:00.310000 0 Row mismatch with s
Alt2 699.029... >00:00:05.094 Terminated by criteria
Alt3 699.029... >00:00:05.093 Terminated by criteria
Alt4 723.648... 00:00:01.469001 1691 Run all records
Alt5 723.673... 00:00:01.344000 1691 Run all records
Alt6 723.736... 00:00:01.313000 1691 Run all records
Alt7 723.956... 00:00:01.344001 1691 Run all records
Num Insert Caps Scroll Modified 1 : 1 440 bytes
Schema : DB2ADMIN Login : db2admin Database Alias : SODADB

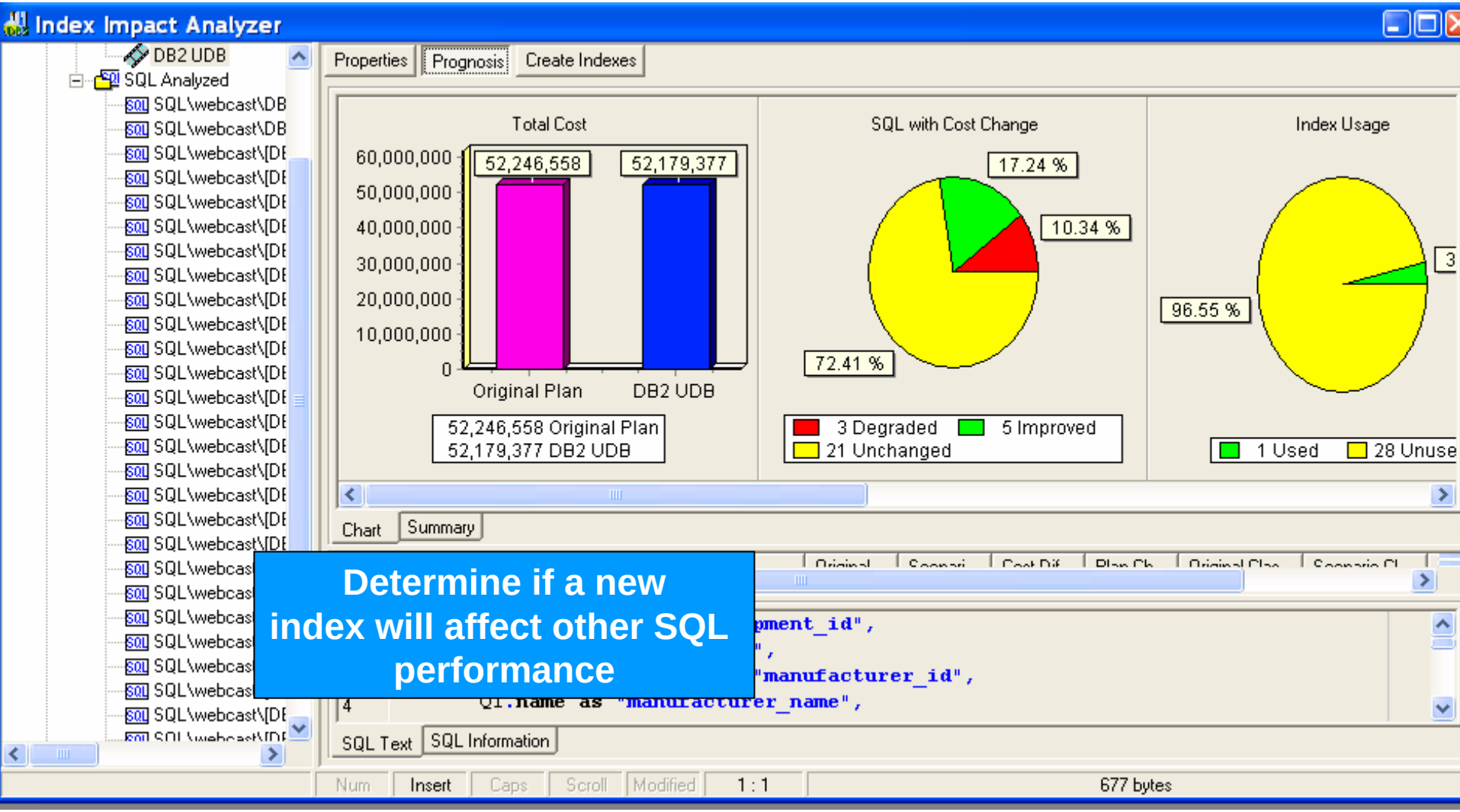
Index Expert



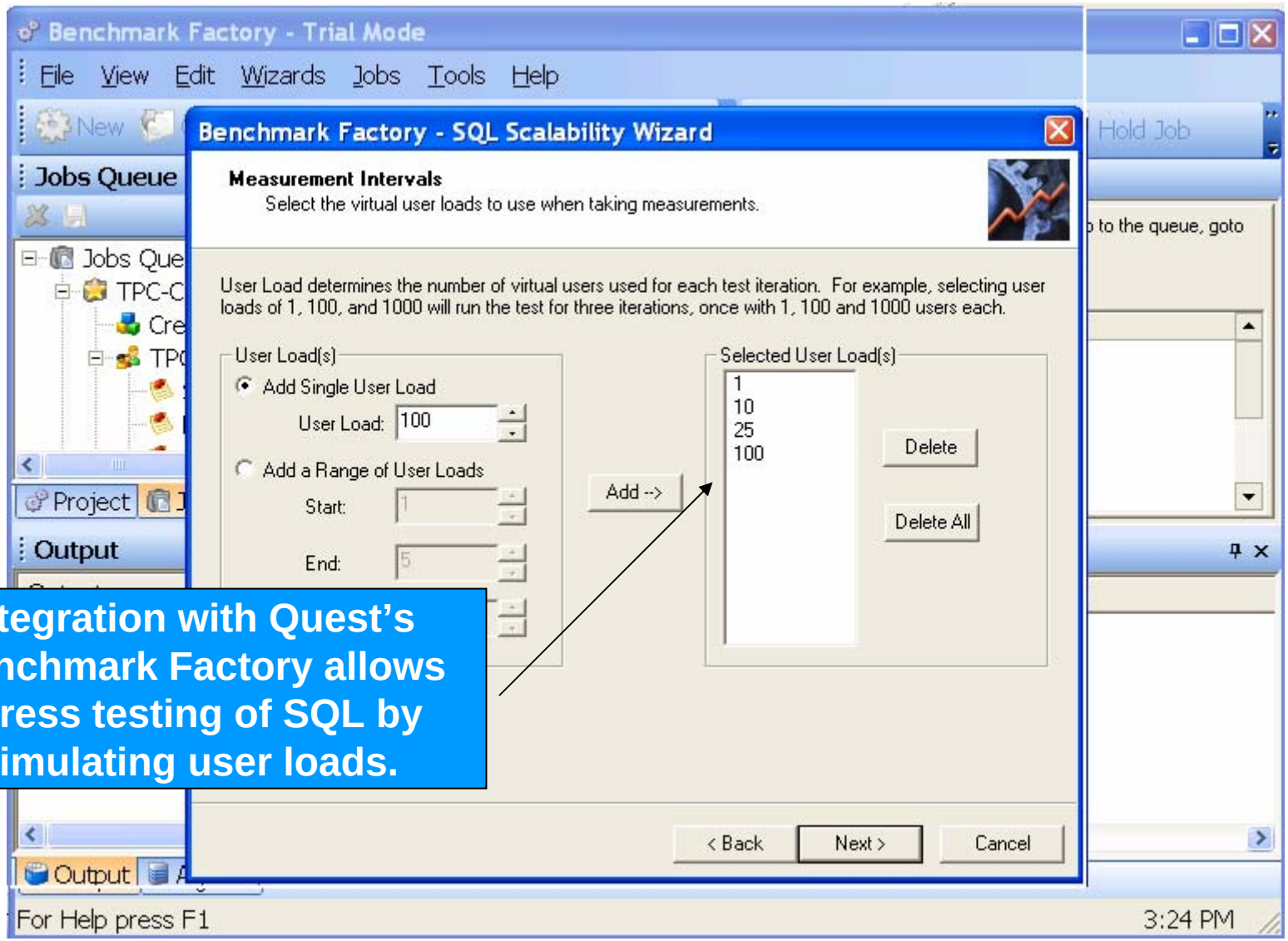


Benchmark indexes to determine actual Performance.

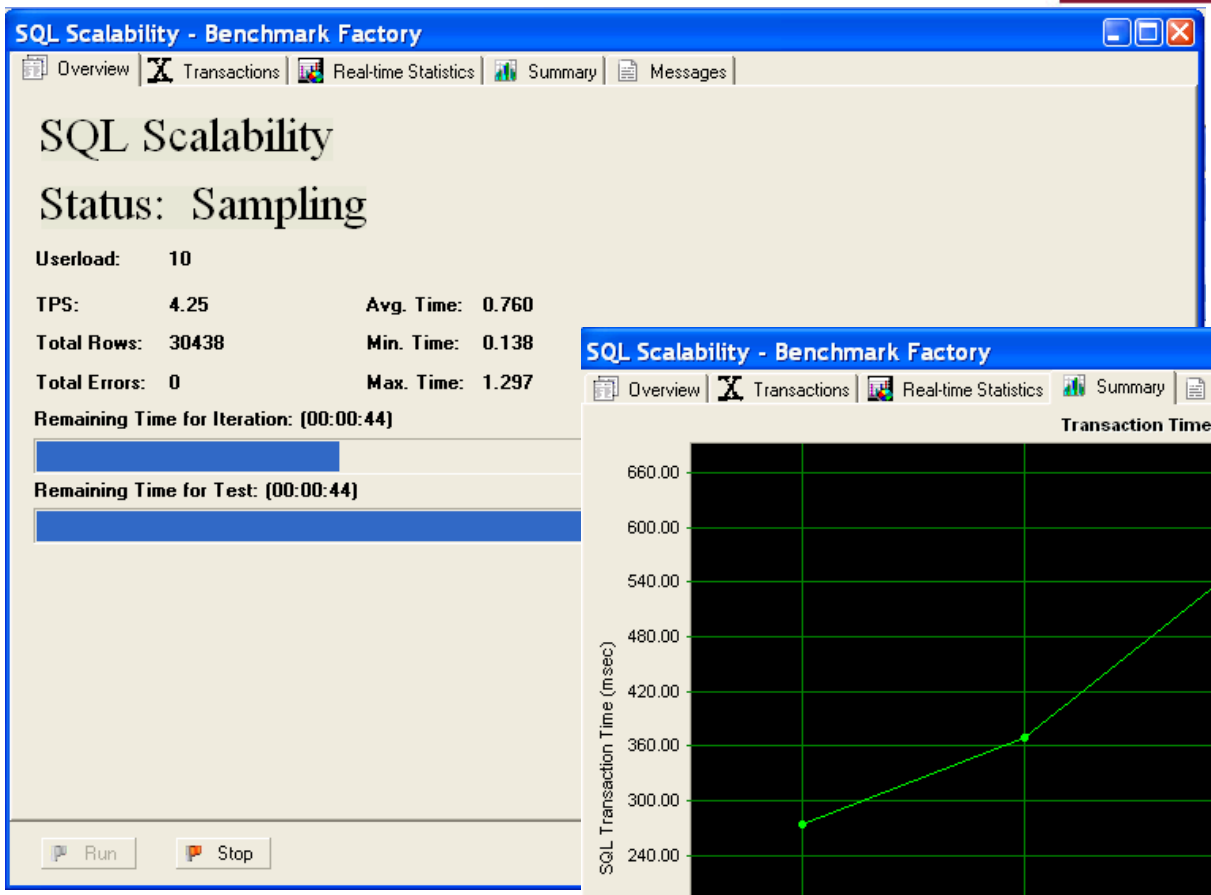
Index Impact Analysis

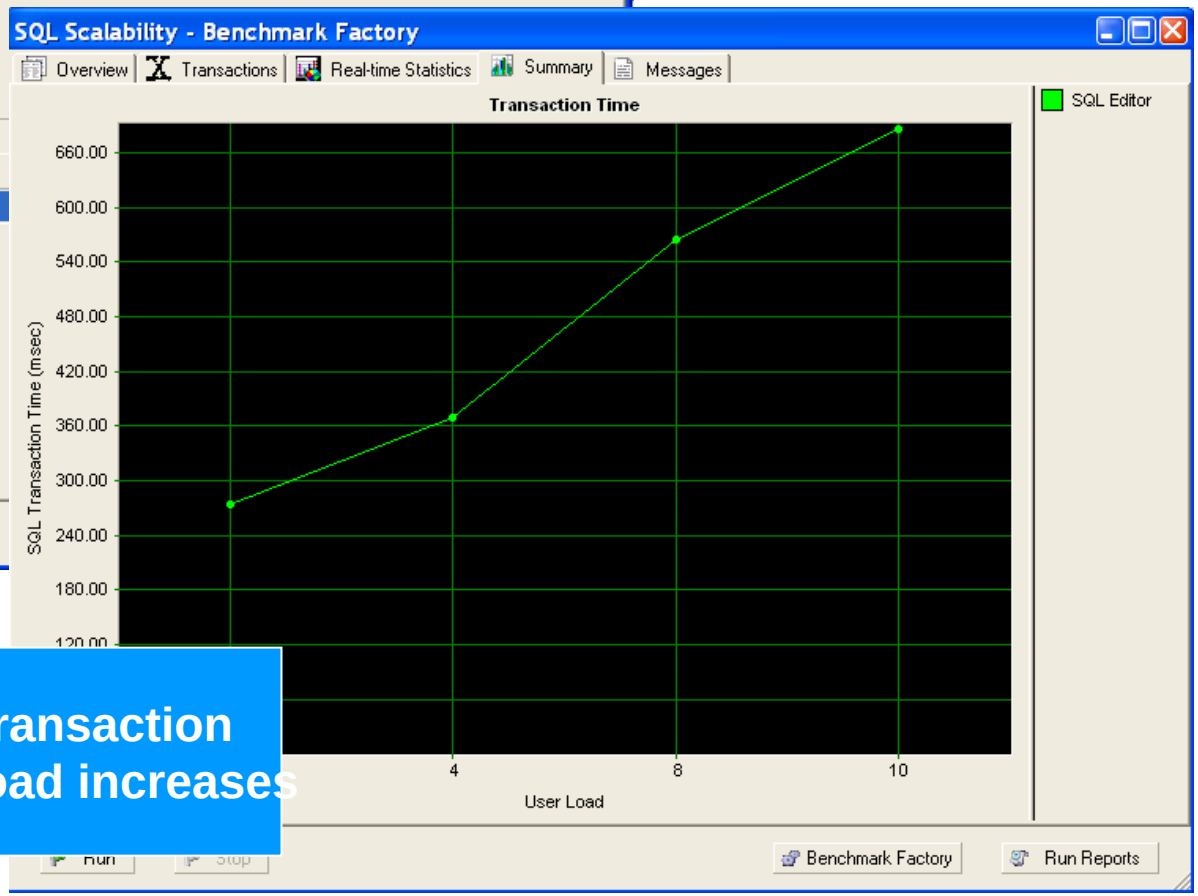


Scalability Testing



Integration with Quest's Benchmark Factory allows stress testing of SQL by simulating user loads.





Plot out change in transaction performance as user load increases

Toad™ for IBM DB2® Roadmap

- **V 2.0 Sept. ’06**
- DB2 LUW
  - Initial Viper support
- DB2 z/OS
  - V8 baseline
    - UIs address changes to DDL (max number of partitions, etc.)
    - Alters/Extended Alters to take into account advancements
    - Unicode Support
    - New Objects: MQTs / Sequences
    - Plus many other V8 features
  - Support for Schema Objects
  - Complete Toad SQL editing/browsing support
  - Visual Explain
- **V 3.0 May ’07**
  - For DB2 z/OS & DB2 LUW developers and administrators
  - DB2 utilities
  - Commands and Physical Objects
  - Advanced Migrations
  - Extended Alters

For More Information

Download Toad™ for IBM DB2® and SQL Optimizer™ for DB2 Trials:

- www.quest.com/toad_for_db2

Download the Toad™ for IBM DB2® Flash Demo:

- www.quest.com/toad_for_db2