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Oracle SQL Developer 3.0

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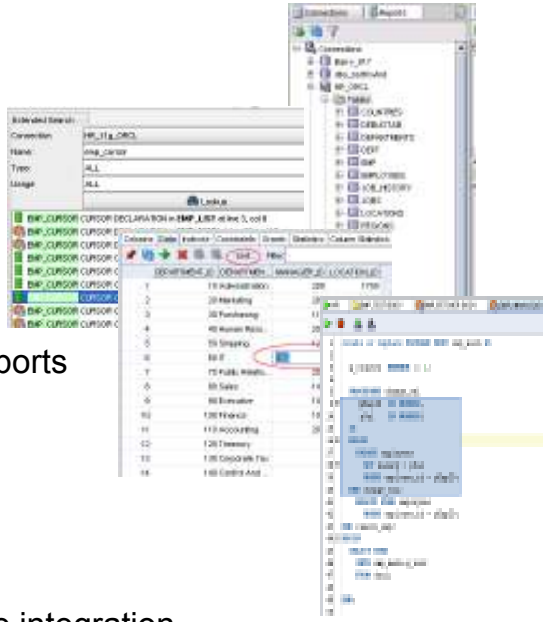


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Oracle SQL Developer Feature Overview

- Database connections
- Browse, query, update objects
- SQL Worksheet
- Query Builder
- Data import and export
- Object export
- PL/SQL
- Database and user-defined reports
- User-defined extensions
- Files and source code control
- Third-party databases
- Database migration
- Oracle APEX integration
- TimesTen In-Memory database integration

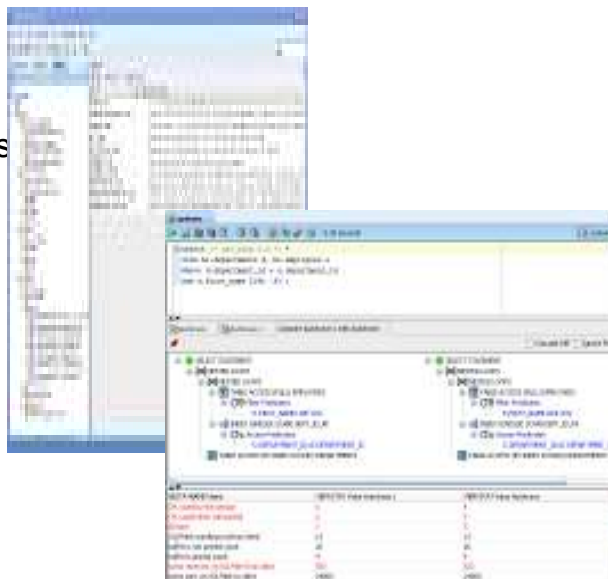


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New Features with Oracle SQL Developer 3.0

- Schema browser
- Query Builder
- PL/SQL updates
- Import and Export updates
- PDF file support
- Extended Unit Testing
- DBA Navigator
- Extended Tuning Support
- DBMS Scheduler
- Database migration
- Integrated spatial support
- Data Miner



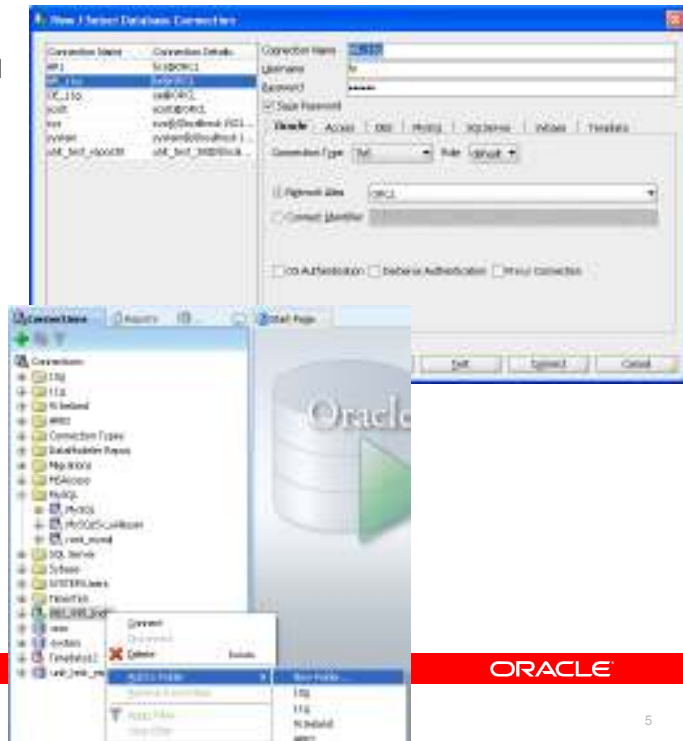
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** New to Oracle SQL Developer 3.0

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Database Connections

- Connection Support
 - Basic, TNS, LDAP, Advanced
 - External authentication
 - Proxy connections
 - Third-party database
 - Password expiration
 - Use thick driver for strong authentication
 - Kerberos Authentication
- Create, save and test
 - Multiple databases
 - Multiple schemas
- Import and export
- Reuse
 - Database browsing
 - PL/SQL development
 - Running reports
- Grouping Connections

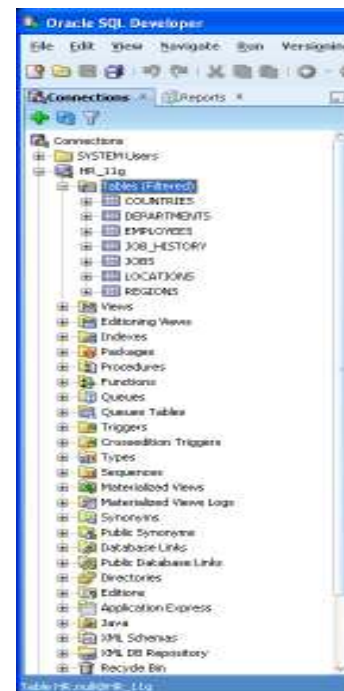


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Creating and Browsing Objects

- Connection Navigator - Tree based object browser
- Context menu utilities
- Create and edit database objects
 - Tables, Views, Indexes, Sequences
 - Packages, Procedures, Functions, Triggers, Types
 - Materialized Views and Logs
 - Synonyms (public and private)
 - Directories, Database Links (includes Public)
 - Application Express
 - Queues, Queue Tables
 - Browse and Load Java
 - XML Schemas, XML DB Repository
 - Jobs
 - Editions (Oracle Database 11g Release 2)
 - Recycle Bin
 - Other Users
- Generate DB Doc
- Run Manage Database report

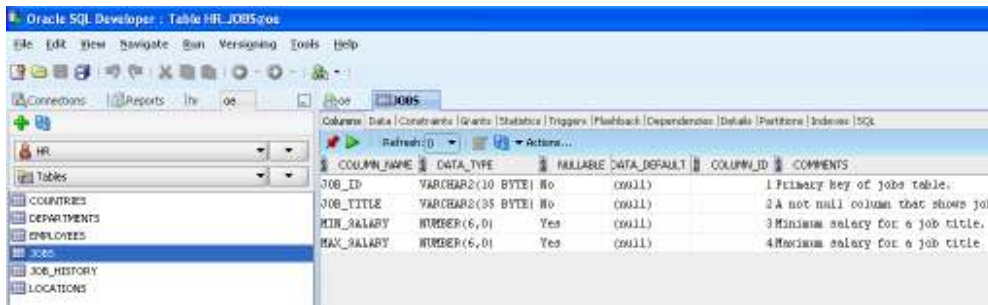


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Schema Browser

- Alternate view of object browser
- Select and filter object type
- Select and filter users
- Additional client-side filter



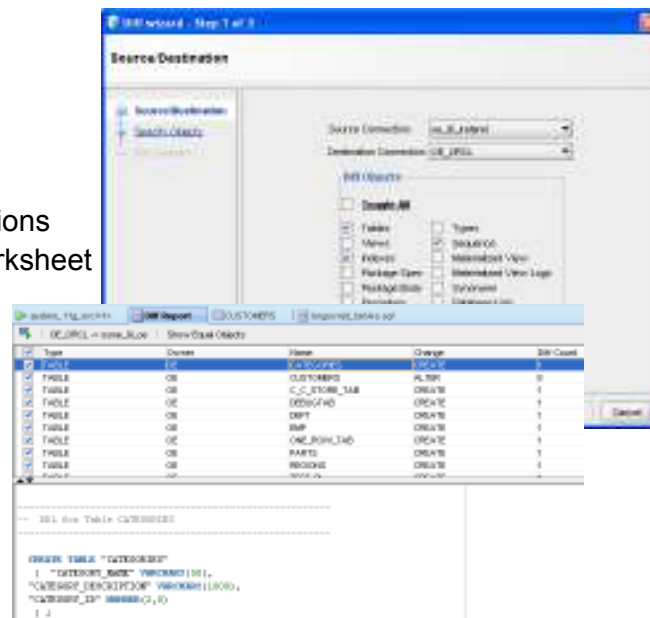
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Schema Copy and Compare

- Schema Copy
 - Create new objects
 - Truncate objects
 - Drop objects
 - Summary report of actions
 - Log output to SQL Worksheet
- Schema Compare
 - Specify object types
 - Specify objects
 - Review diff summary
 - Summary report
 - Statements sent to SQL Worksheet



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Data Grids: Querying and Updating Data

- Browse table and views data grid
 - Filter, Sort
- Context menus offer
 - Single record view
 - Duplicate row
 - Count rows
 - Save Grid as a report
 - Highlight data
- Manage columns
 - Reorder
 - Hide and show columns
 - Data filters
- Track updates in message log
- Recall filters
- Single value updates in data grid
- Clear grid settings

DEPARTMENT_ID	DEPARTMENT_NAME	MANAGER_ID	LOCATION_ID
1	10 Administration	200	1700
2	20 Marketing	201	1800
3	30 Purchasing	114	1700
4	40 Human Resources	203	2400
5	50 Shipping	121	1500
6	60 IT		1400
7	70 Public Relations		2700
8	80 Sales		2500
9	90 Executive		1700
10	100 Finance		1700
11	110 Accounting		1700
12	120 Treasury		1700
13	130 Corporate		1700
14	140 Control		1700
15	150 Shareholder		1700
16	160 Benefits		1700
17	170 Manufacturing		1700
18	180 Construction	(null)	1700

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** Import and Export updated in Oracle SQL Developer 3.0

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Exporting and Importing

- Context menu DDL and data export
 - Text, CSV, Insert, Loader, XML, HTML, XLS, PDF
- Import Data
 - MS Excel data import
 - Create table on import
- Export wizard
 - Parameters to include:
 - Schema owner
 - Drop statements
 - Storage syntax
 - Inline constraints syntax
 - Export data
 - Export grants
 - Export opens in SQL Worksheet



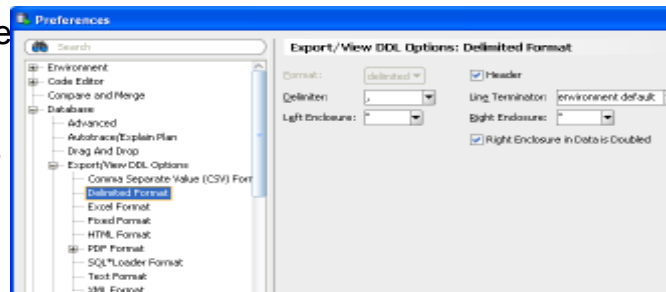
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** Updated in Oracle SQL Developer 3.0

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Exporting Data

- Export metadata and data for a schema, selected object types or selected objects
- Customizable user interface
- Configurable metadata and data format options
- Target options to send output to single or multiple files and directories
- Preferences manager
 - Delimiters
 - Enclosures
 - Record terminators
 - Encoding
 - Headers



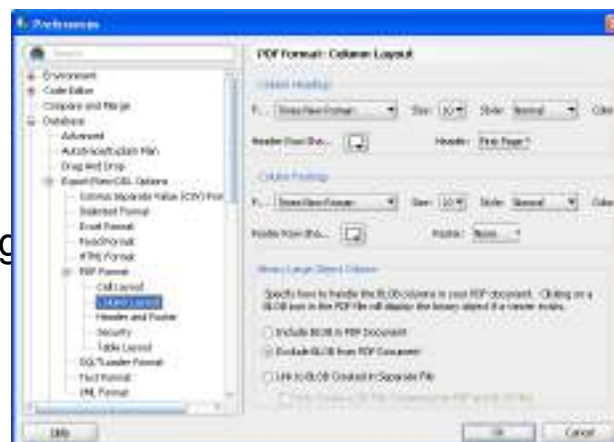
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** Updated in Oracle SQL Developer 3.0

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Exporting to PDF

- New data format support for PDF
- Configure PDF file format using preferences
- Customizable Layouts
- Provides security to encrypt and password-protect
- Provides option to include BLOBs including
 - Images
 - Video
 - Spreadsheets



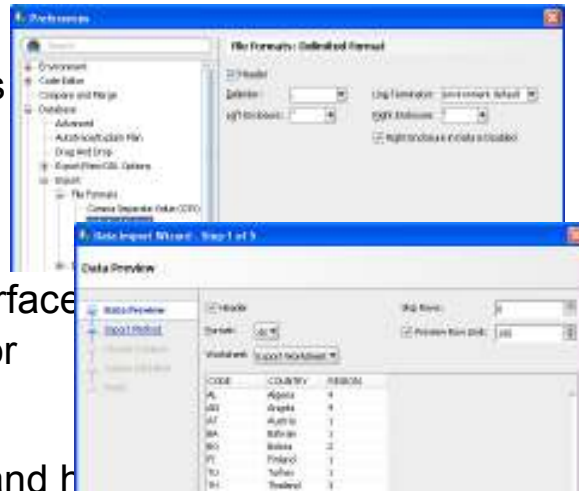
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** New to Oracle SQL Developer 3.0

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Importing Data

- Various import methods
 - Insert and insert script
 - External table, staging external table,
 - SQL*Loader
- Customizable user interface
- Delimited file support for specifying delimiters, enclosures, record terminators, encoding and header
- Dynamic data preview provides view of file as changes to the definition are made



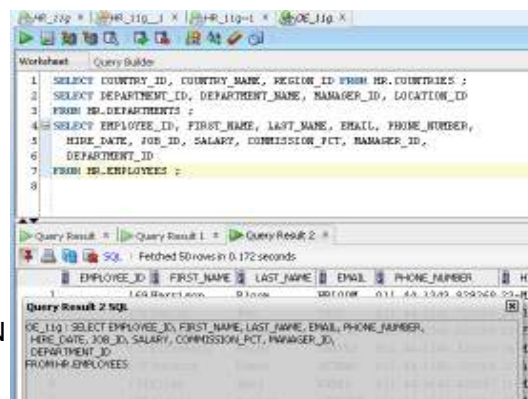
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General Features of the SQL Worksheet

- Drag and drop choices for queries
 - Select for individual statements
 - Select and join tables
 - Insert, update, delete
- Execute queries and scripts
 - Single statement execution
 - Multiple statement execution
 - Script execution
- Command support for
 - SQL*Plus
 - SQL and PL/SQL
- Open multiple worksheets
 - Unshared worksheets – ctrl-shift-N
 - Shared worksheets – alt-F10
 - Dockable SQL Command History
- Supporting windows
 - SQL Tuning Advisor
 - Explain Plan and Autotrace
 - HTP and OWA output

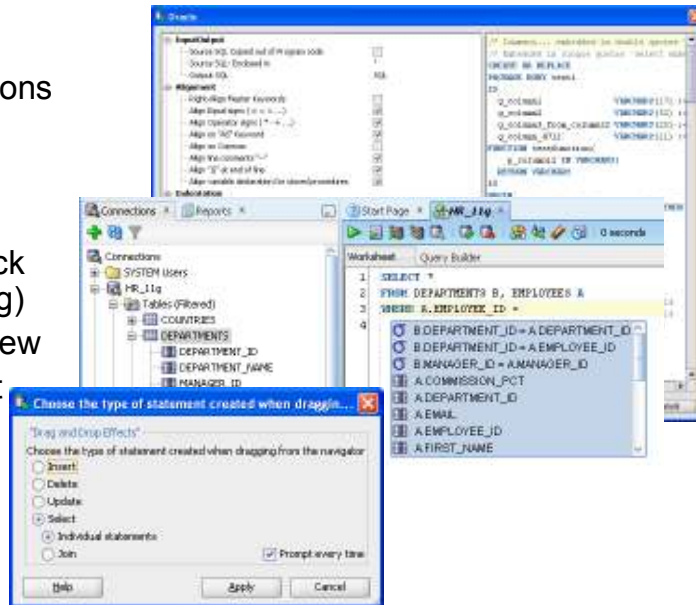


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Editing Code in the SQL Worksheet

- Code insight
- Code refactoring options
- Syntax highlighting
- Code templates
- Code snippets
- Record level flashback (Oracle Database 11g)
- Formatting with preview
- Bind variable support

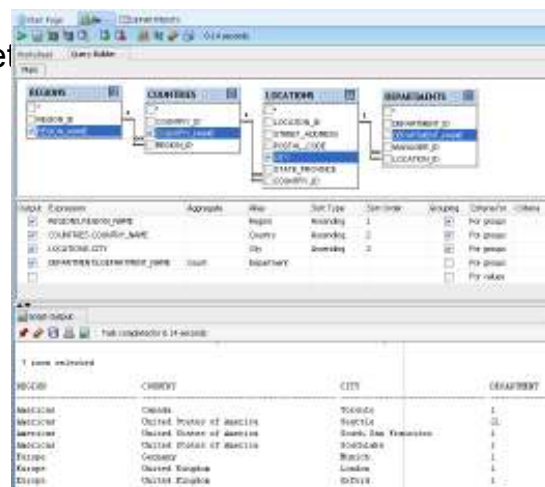


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Query Builder

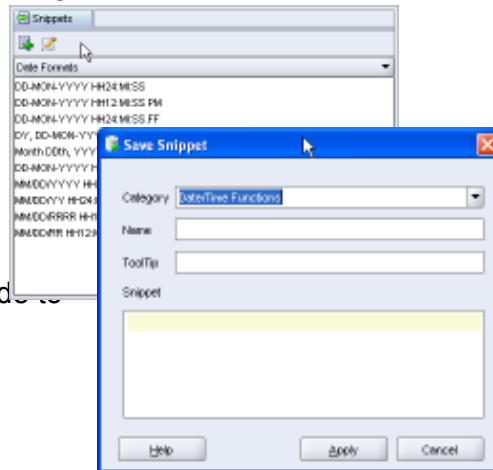
- Drag and drop query building
- Integrated with SQL worksheet
- Supports
 - Multiple object selection
 - Switch from Query Builder and Worksheet
 - Aggregates, Alias, Order By, Group By, Where clauses
 - Repeated tables
 - Union, intersect, minus and subqueries



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Code Snippets and Templates

- Code Snippets
 - Drag and drop code from snippet categories to SQL Worksheet or code editor
 - Start typing to invoke code insight
 - Create new
 - Categories
 - Snippets
- Code Templates
 - Add ID and code in preferences
 - In SQL Worksheet, start typing code to invoke code insight

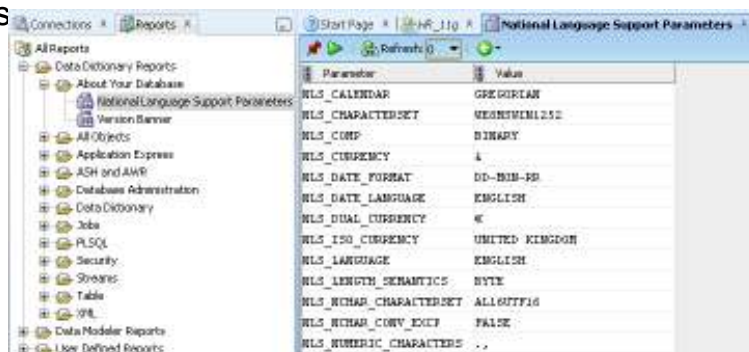


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Creating and Running Reports

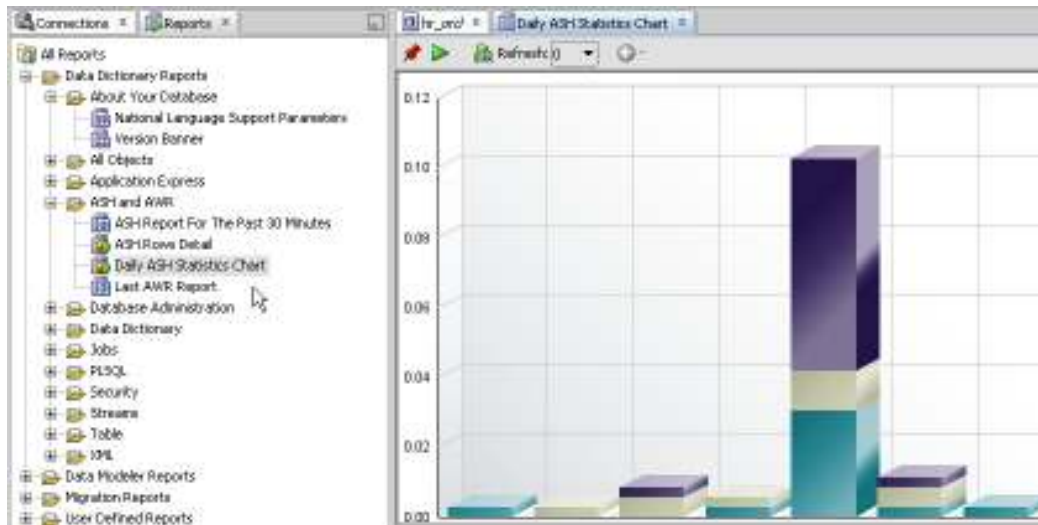
- Shipped Reports
 - DBA
 - System
 - Oracle APEX
 - Migration
- User Defined
 - Charts
 - Gauges
 - Master/detail
 - Drill down
 - Script
 - HTML
 - Code



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ASH and AWR Reports



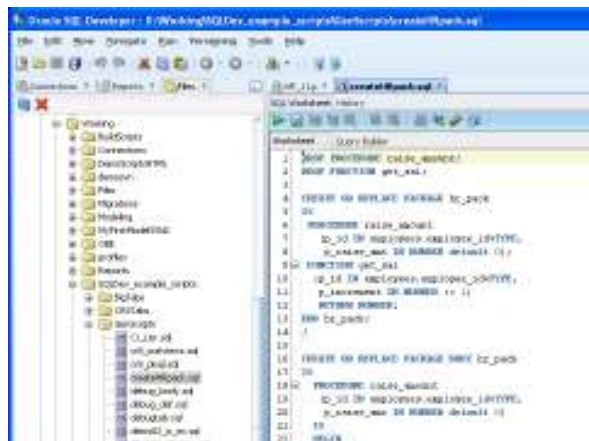
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File Based Development

SQL Developer supports file based development

- Explore files in the Files navigator
- Open files in the SQL Worksheet
- Place files under version control
- Execute against a connection
- Syntax formatting

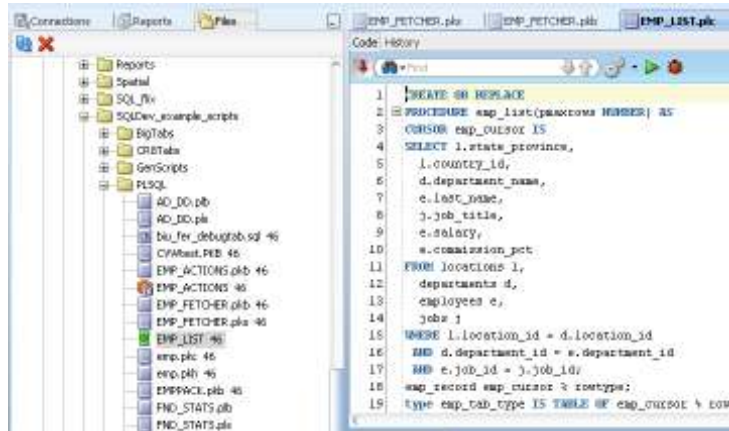


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PL/SQL Updates

- Debugging PL/SQL tagged file
- Run and debug procedures with ref cursors
 - Display ref cursor data



```
1 CREATE OR REPLACE
2 PROCEDURE emp_list(pmaxrows NUMBER) AS
3 CURSOR emp_cursor IS
4 SELECT l.state_province,
5        l.location_id,
6        d.department_name,
7        e.last_name,
8        j.job_title,
9        e.salary,
10       e.commission_pct
11 FROM locations l,
12      departments d,
13      employees e,
14      jobs j
15 WHERE l.location_id = d.location_id
16       AND d.department_id = e.department_id
17       AND e.job_id = j.job_id
18 emp_record emp_cursor % rowtype;
19 type emp_tab_type IS TABLE OF emp_cursor % rowtype;
```

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PL/SQL Unit Testing

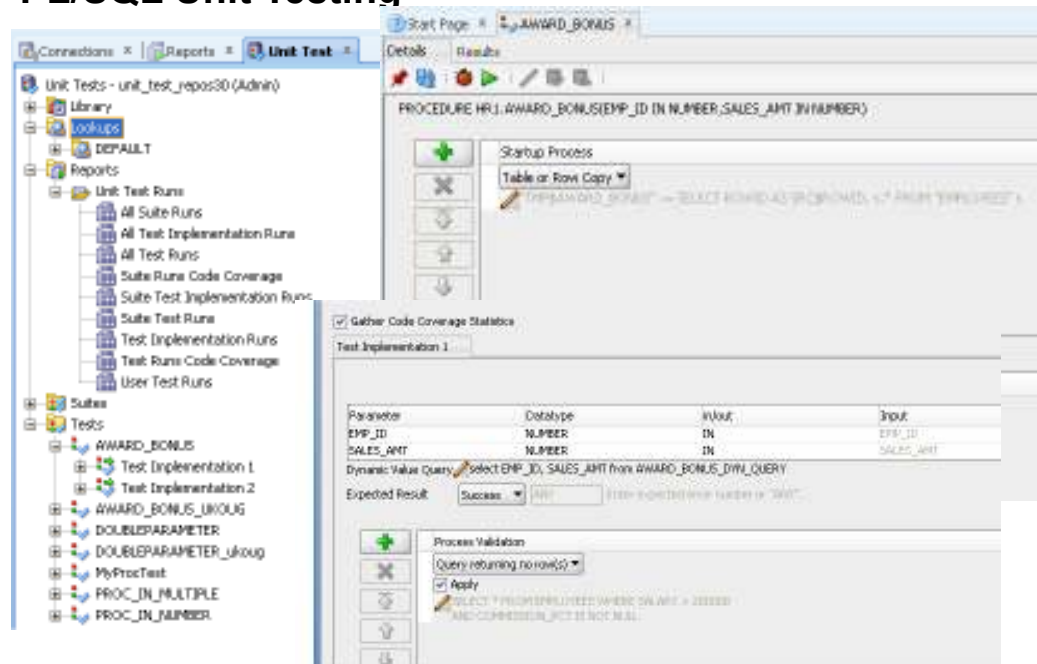
- Create tests with one or more implementations
- Build up suites of tests
- Run test reports
- Store reusable components in a library
- Build static and dynamic lookups
- Support multiple users through a repository
- Build up code coverage stats
- Run tests from the command line
- Target any database



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PL/SQL Unit Testing

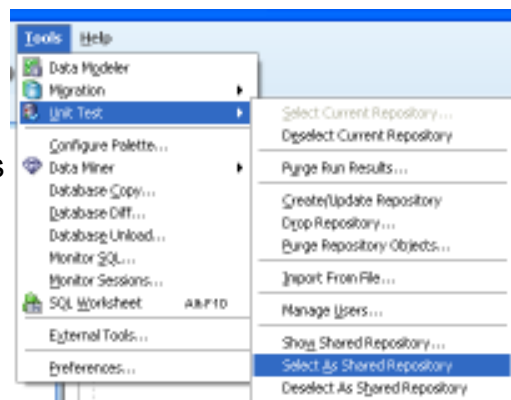


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Unit Test Updates

- Enhanced multi-user support
- Support added for abstract data types
 - PL/SQL VARRAY
 - PL/SQL Nested Table
 - PL/SQL Associative Array
 - Ref Cursors
- Multiple startups and teardowns
- Purge run results
 - All results
 - Set of results



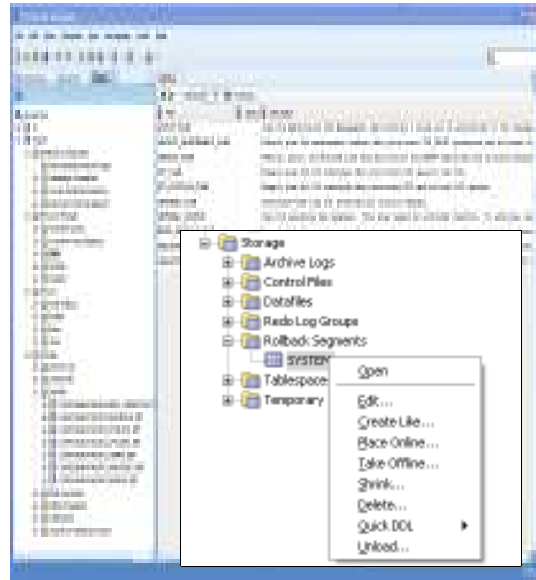
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DBA Navigator

- Browse and maintain database configuration
- Review and manage database using the resource manager
- Browse, update and create security options
- Update and review storage objects
- Create users and roles



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Refactor, Review, Search, Tune and Monitor

SQL Developer provides a PL/SQL related utilities

- Explain Plan, Autotrace and Diff
- SQL Tuning Advisor
- PL/SQL Hierarchical Profiler
- Extended Search using PL/SQL
- SQL Monitor
- SQL Developer PL/SQL Reports
- General refactoring
- APEX refactoring

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Real-Time SQL Monitoring

- Real time view of SQL
- Drill to view details
- Visual indicators for current step
- Queries over 5 seconds monitored
- Use `/*+MONITOR*/`
- `DBMS_SQLTUNE.REPORT_SQL_MONITOR`

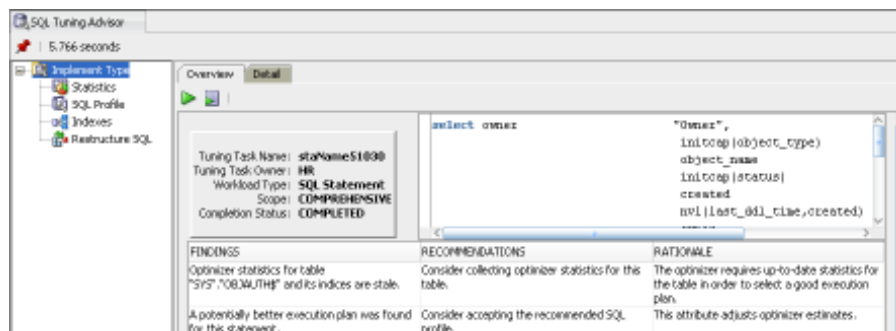


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SQL Tuning Advisor

- Requires *advisor* and *administer SQL Tuning set* privileges
- Review all advice or select individual components
 - Stale or missing statistics
 - Generation of SQL Profiles with in depth detail
 - Manual restructuring of SQL
 - Use of indexes



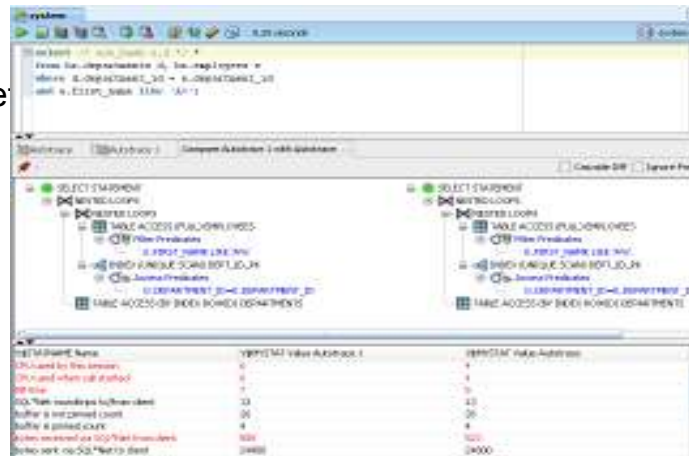
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Compare Explain Plan and Autotrace Results

- Compare results of two queries
 - Gather Explain Plan/Autotrace results for first query
 - Pin results
 - Modify query
 - Gather second set of plan results
 - Compare plans



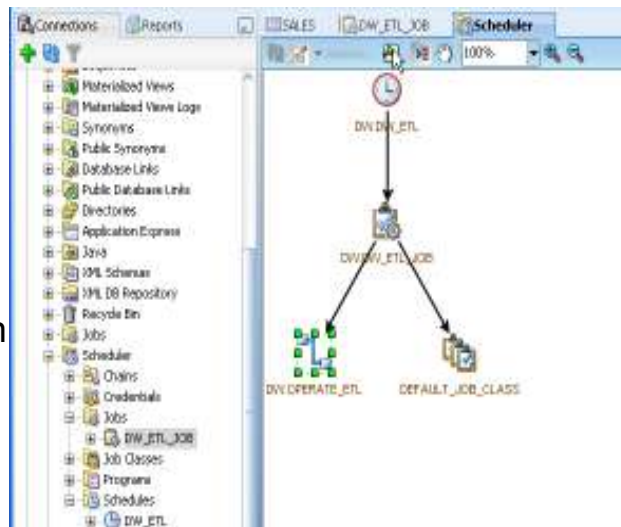
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DBMS Scheduler

- DBMS Scheduler allows you to control when and where various tasks take place
- Scheduler node provides
 - Chains
 - Credentials
 - Jobs & Job Classes
 - Programs
 - Schedules
- Design Editor view for graphical representation



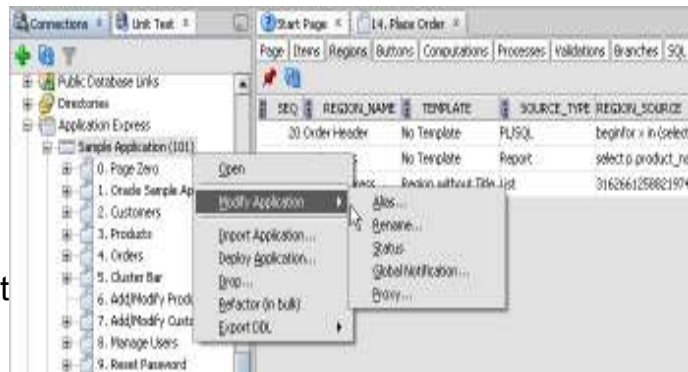
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SQL Developer and Oracle APEX 3.0.1+

- Connect to and browse all Oracle APEX applications associated with a database schema
 - Application level
 - Page level
- Run reports on:
 - Workspaces
 - Applications
 - Pages
 - Schemas
- Context menu support
 - Importing, exporting
 - Deploying
 - Dropping
 - Modifying applications

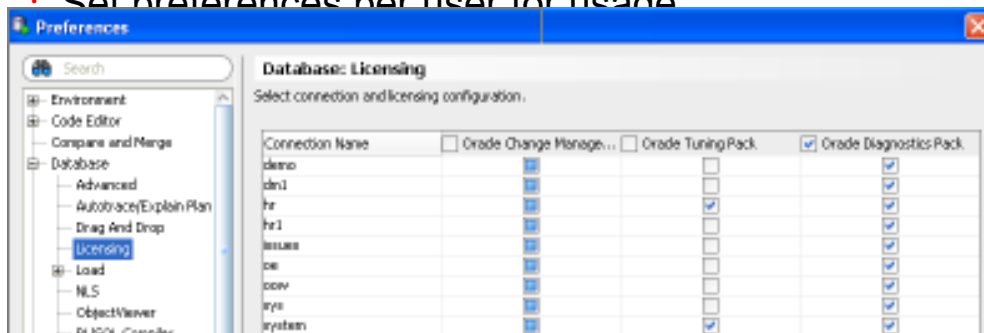


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Management Pack Preference Setting

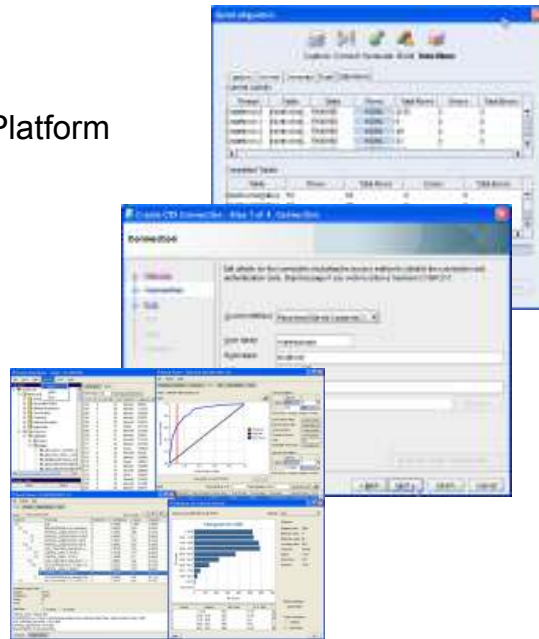
- SQL Developer supports Oracle Database Management packs
 - Oracle Diagnostic Pack (ASH and AWR Reports)
 - Oracle Change Management Pack (Database Diff)
 - Oracle Tuning Pack (SQL Tuning Advisor, Monitor SQL)
- Set preferences per user for usage



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SQL Developer's Extensible Framework

- Easily extended
 - Based on the Fusion Client Platform
- Oracle custom extensions:
 - Migration Workbench
 - TimesTen
 - Data Miner
 - Rdb (under development)
 - Oracle Spatial
- Third Party extensions
 - Various third party available

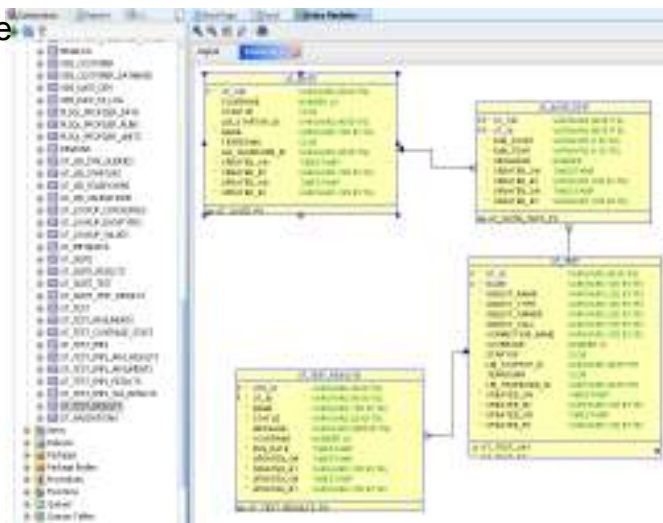


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Integrated Data Modeling

- Create, update and save models
- Open existing models
- Import to create models
- Drag and drop tables to create relational model
- Work with Design Rules
- Generate DDL
- Browse with thumbnail view



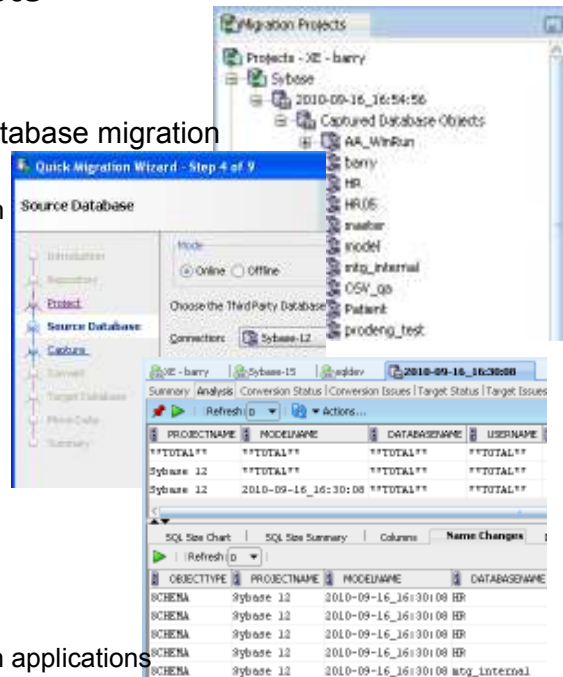
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Database Migration Projects

- Migration navigator for 3rd party database migration
- Copy to Oracle
 - Right click and copy to a connection
- Server Capture for multi-database
- Migration Wizard
 - Drives all phases of migration
- Command line support
 - All migration features
- Migration Reports
 - Project Estimation/Server Analysis
 - Conversion Issues
 - Data Quality metrics
 - Target objects verification
- Client application scanning
 - Identifies 3rd party database calls in applications



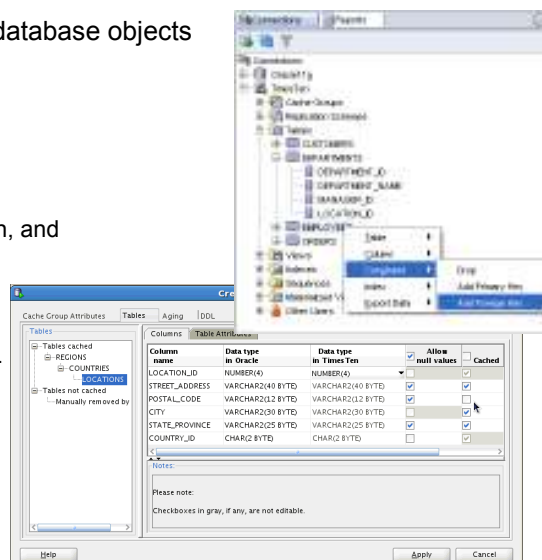
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** Updated in Oracle SQL Developer 3.0

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TimesTen Support

- Browse, edit, create, modify TimesTen database objects including users
- In-Memory Database Cache
 - Create/drop/alter cache groups
 - Load/unload, flush, refresh cache data
- PL/SQL support
 - Create/Replace/Drop, Edit, Compile, Run, and Export procedures/functions/packages
- Show SQL execution plans and update table and column statistics
- Access SQL Worksheet for ad-hoc SQL queries, execute TimesTen built-in procedures and tsql commands
- Run pre-defined database and objects reports
- Manipulate cached data in both TimesTen and Oracle at the same time



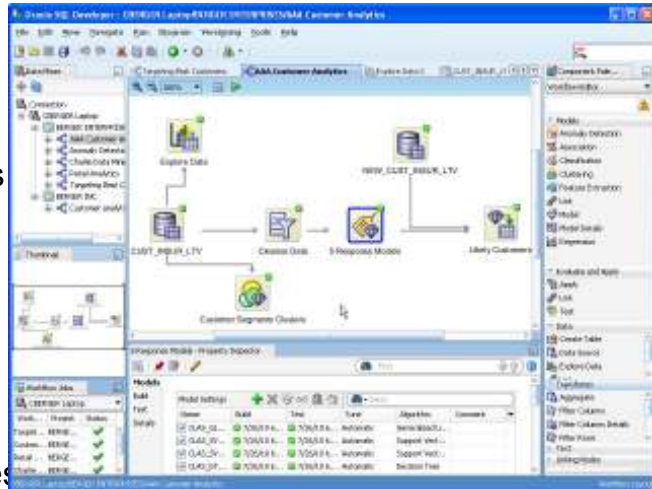
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** Updates in Oracle SQL Developer 3.0

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Oracle Data Miner

- Graphical User Interface for data analysts
- Build and evaluate data mining models
- Apply predictive models
- Share analytical workflows
- Deploy SQL, apply code and scripts
- Predict customer behavior
- Identify key factors
- Predict next-likely product
- Customer profiling
- Detect fraud and anomalies
- Mine “text” and unstructured data

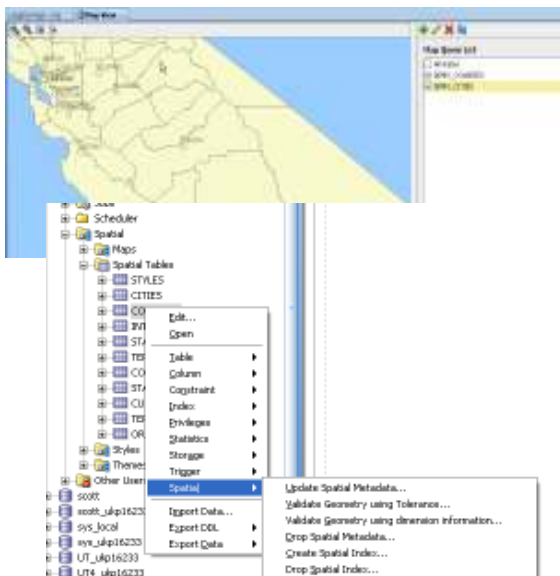


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Managing Oracle Spatial Information



- Data Management
 - Maintain spatial metadata and indexes
 - Support for spatial validation
- Data Querying
 - Create spatial queries
 - Generate spatial shapes
 - Display query results in map view
- Map support
 - Display layers in a map based on map queries
 - Drag and drop spatial tables onto map view for quick display
 - Use spatial snippets

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