



Using SQL Developer

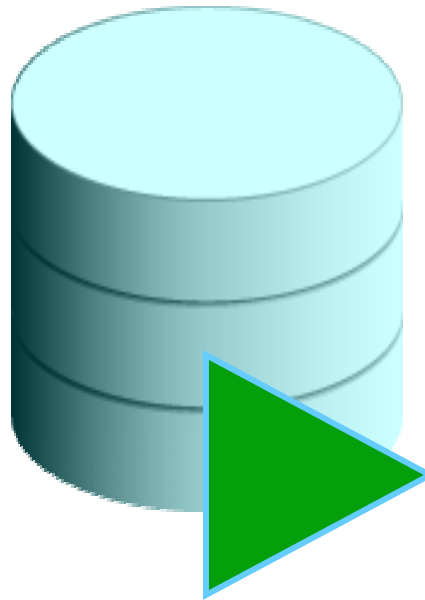
Objectives

After completing this appendix, you should be able to do the following:

- List the key features of Oracle SQL Developer
- Install Oracle SQL Developer
- Identify menu items of Oracle SQL Developer
- Create a database connection
- Manage database objects
- Use SQL worksheet
- Save and run SQL scripts
- Create and save reports

What Is Oracle SQL Developer?

- Oracle SQL Developer is a graphical tool that enhances productivity and simplifies database development tasks.
- You can connect to any target Oracle database schema by using standard Oracle database authentication.



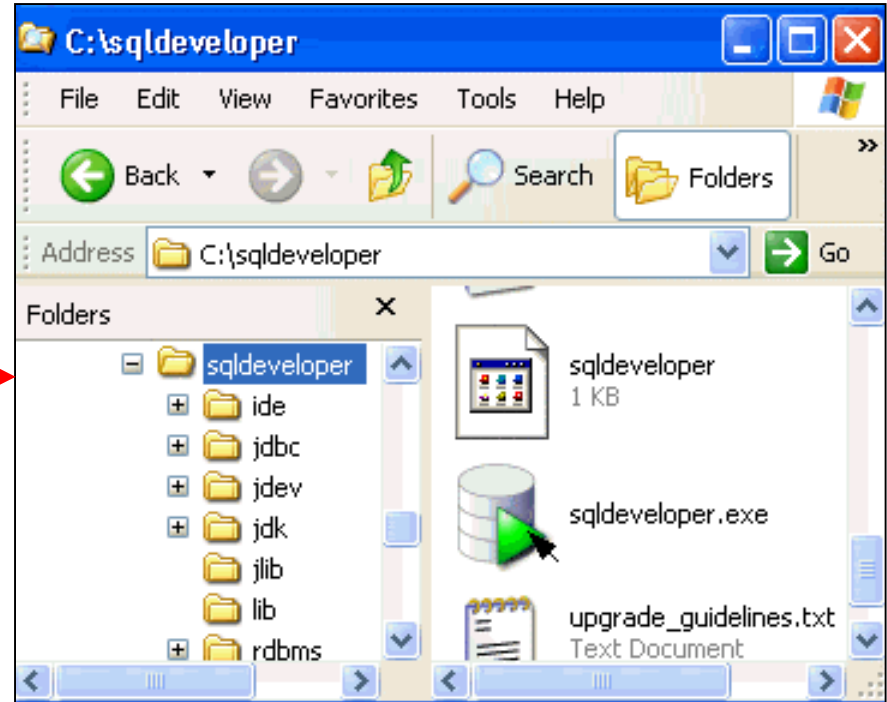
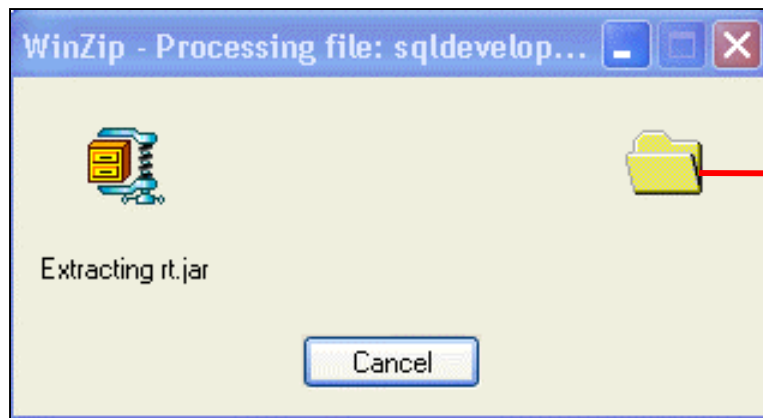
SQL Developer

Specifications of SQL Developer

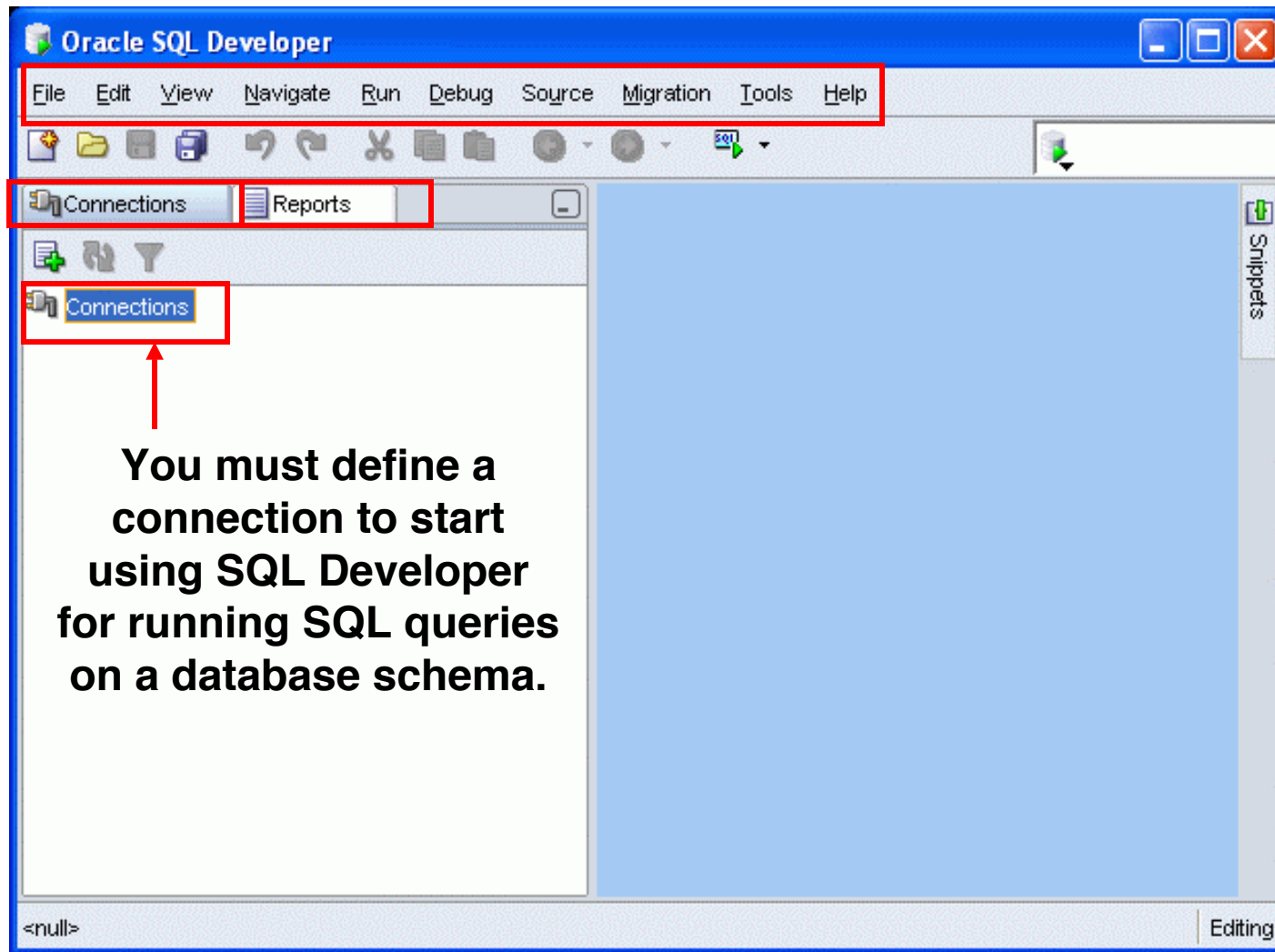
- Developed in Java
- Supports Windows, Linux, and Mac OS X platforms
- Default connectivity by using the JDBC Thin driver
- Does not require an installer
 - Unzip the downloaded SQL Developer kit and double-click `sqldeveloper.exe` to start SQL Developer.
- Connects to any Oracle Database version 9.2.0.1 and later
- Freely downloadable from the following link:
 - <http://www.oracle.com/technology/software/products/sql/index.html>
- Needs JDK 1.5 to be installed on your system. It can be downloaded from the following link:
 - http://java.sun.com/javase/downloads/index_jdk5.jsp

Installing SQL Developer

Download the Oracle SQL Developer kit and unzip into any directory on your machine.



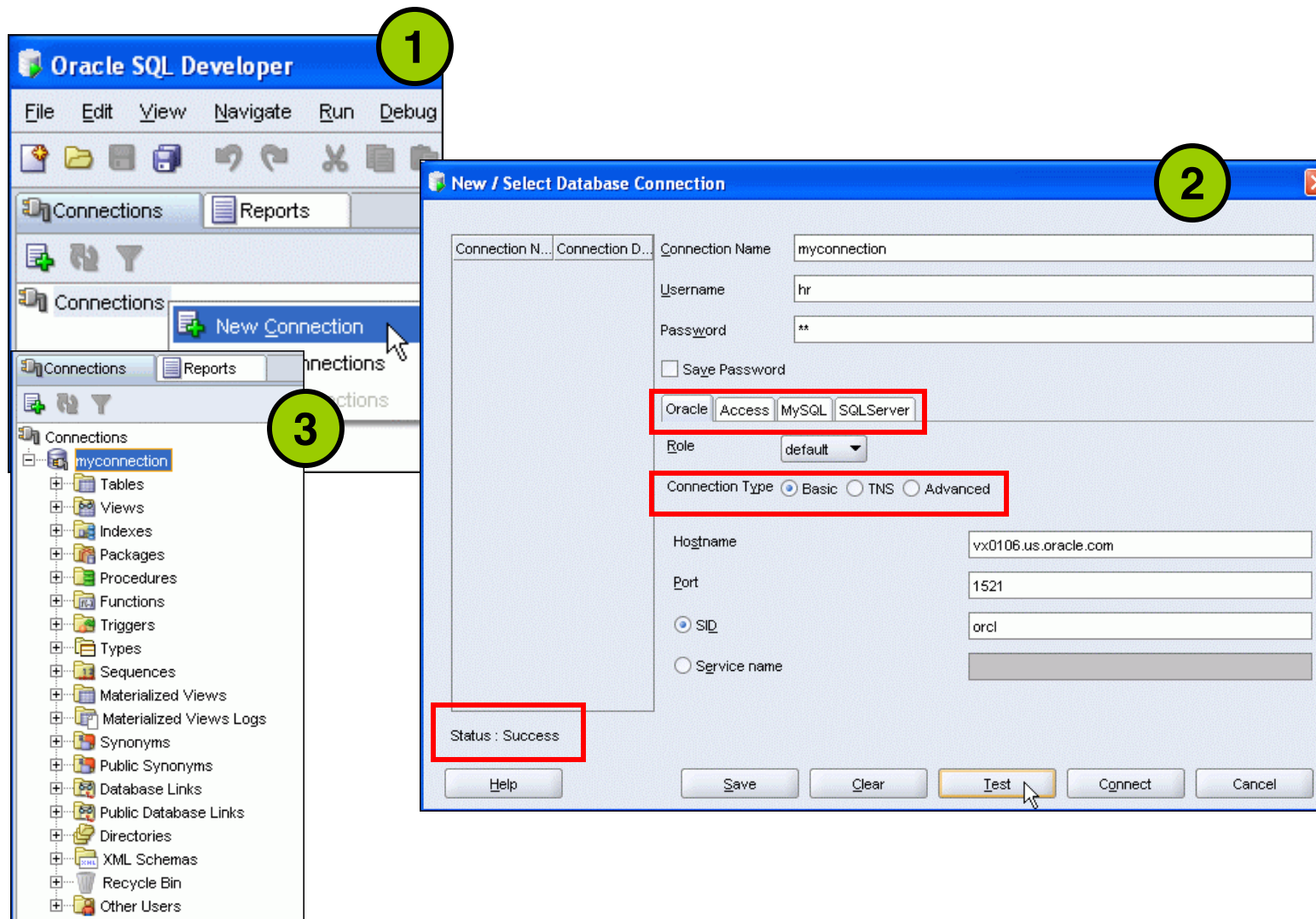
SQL Developer Interface



Creating a Database Connection

- You must have at least one database connection to use SQL Developer.
- You can create and test connections:
 - For multiple databases
 - For multiple schemas
- SQL Developer automatically imports connections defined in the `tnsnames.ora` file on your system.
- You can export connections to an XML file.
- Each additional database connection that is created is listed in the Connections navigator hierarchy.

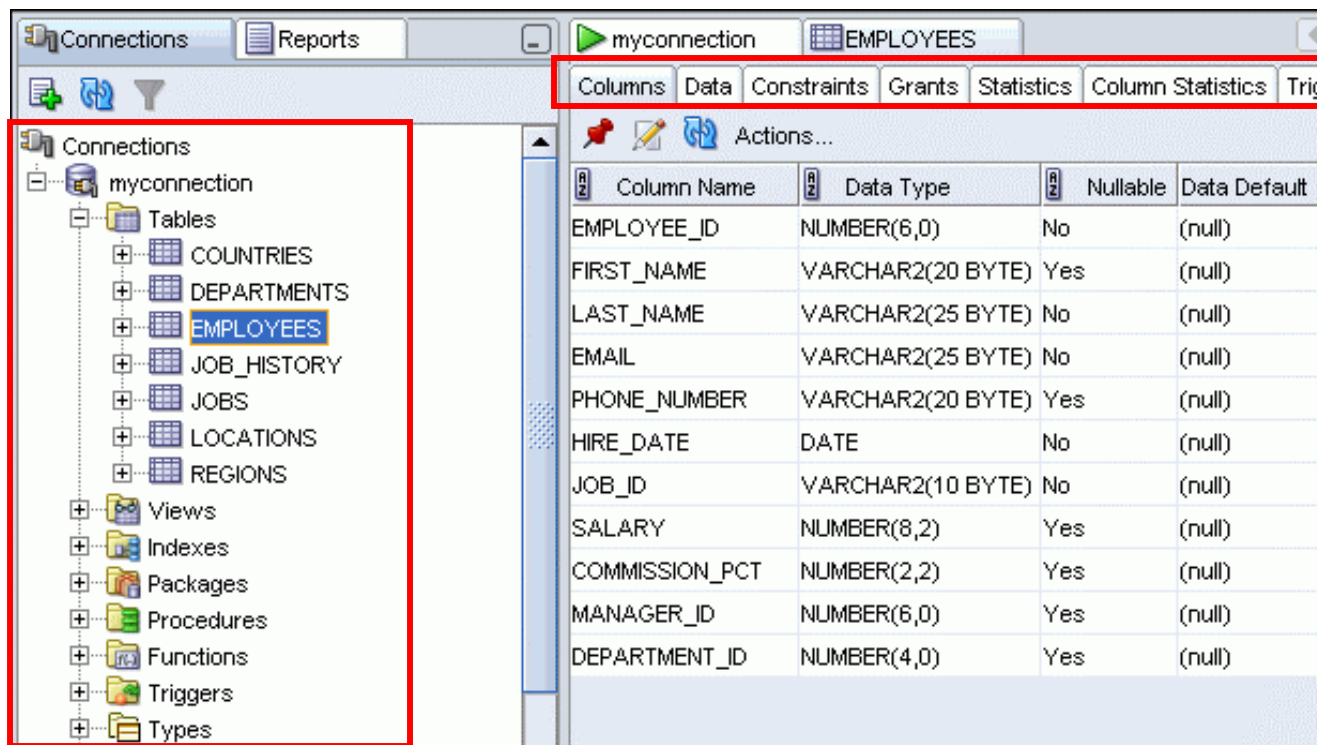
Creating a Database Connection



Browsing Database Objects

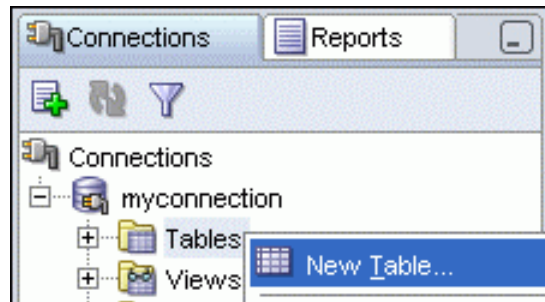
Use the Connections navigator to to:

- Browse through many objects in a database schema
- Review the definitions of objects at a glance



Creating a Schema Object

- SQL Developer supports the creation of any schema object by:
 - Executing a SQL statement in SQL worksheet
 - Using the context menu
- Edit the objects by using an edit dialog or one of the many context-sensitive menus.
- View the DDL for adjustments, such as creating a new object or editing an existing schema object.



Creating a Table: Example

Create Table

Schema:

Name:

Table Type: ☒ Normal ☐ External ☐ Index Organized ☐ Temporary (Transaction) ☐ Temporary (Session)

Columns

- Primary Key
- Unique Constraints
- Foreign Keys
- Check Constraints
- Indexes
- Column Sequences
- Storage Options
- Lob Parameters
- ☒ Partitioning
 - Partition Definitions
 - Subpartition Templates
- Comment
- DDL

Columns:

- ID
- FIRST_NAME
- LAST_NAME
- RELATION
- BIRTHDATE

Column Properties

Name:

Datatype: ☒ Simple ☐ Complex

Type:

Precision:

Scale:

Default:

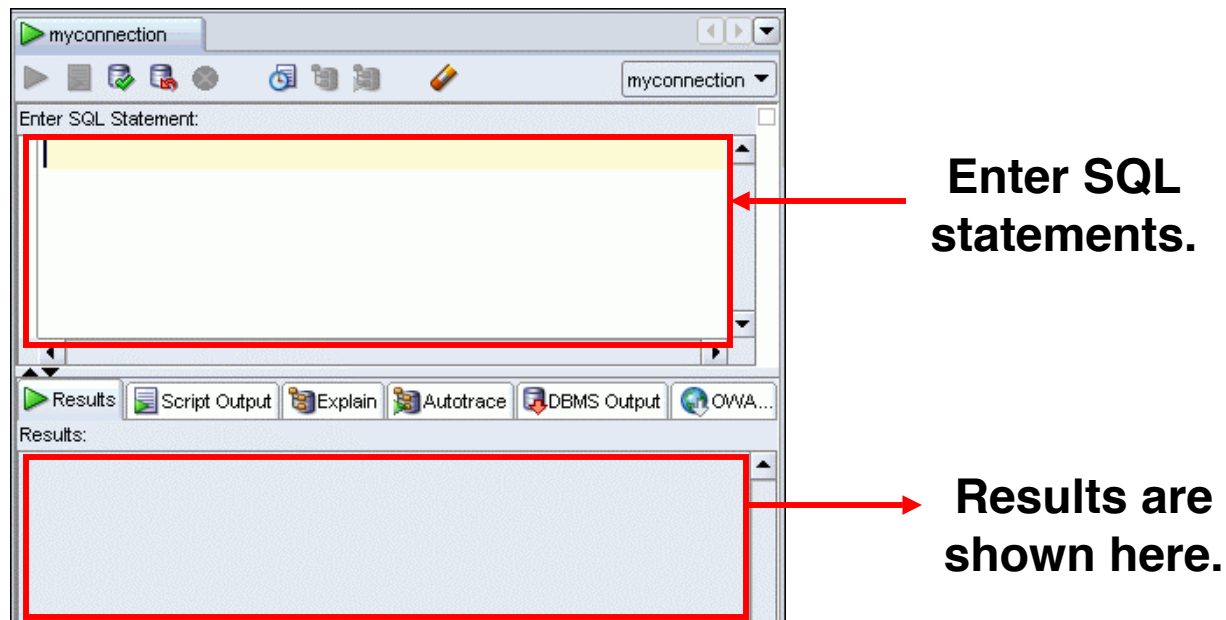
☒ Cannot be NULL

Comment:

Help OK Cancel

Using the SQL Worksheet

- Use the SQL worksheet to enter and execute SQL, PL/SQL, and SQL*Plus statements.
- Specify actions that can be processed by the database connection associated with the worksheet.



Using the SQL Worksheet

The screenshot shows the SQL Worksheet interface with the following elements and callouts:

- 1**: Run button (green play icon)
- 2**: Save button (floppy disk icon)
- 4**: Undo button (curved arrow icon)
- 6**: Refresh button (circular arrow icon)
- 8**: Explain button (book icon)
- 9**: DBMS Output button (downward arrow icon)
- 3**: Enter SQL Statement text box
- 5**: SQL statement text: `SELECT employee_id, last_name`
- 7**: SQL statement text: `FROM employee`

The Results tab is selected, showing the following data:

	EMPLOYEE_ID	LAST_NAME
1	100	King
2	101	Kochhar
3	102	De Haan

Executing SQL Statements

Use the Enter SQL Statement box to enter single or multiple SQL statements.

The screenshot illustrates the workflow for executing an SQL statement in Oracle SQL Developer. It features three main components: the 'Enter SQL Statement' box, the 'Results' window, and the 'Script Output' window.

Enter SQL Statement Box: This box contains the SQL query: `SELECT employee_id, last_name FROM employees;`. The 'Execute' button (a green play icon) is highlighted with a red box and labeled **F9**. The 'Script' button (a document icon) is also highlighted with a red box and labeled **F5**. A red arrow points from the 'Execute' button to the 'Results' window.

Results Window: This window displays the query results in a table format. The 'Results' button (a green play icon) is highlighted with a red box and labeled **F9**. The table shows the following data:

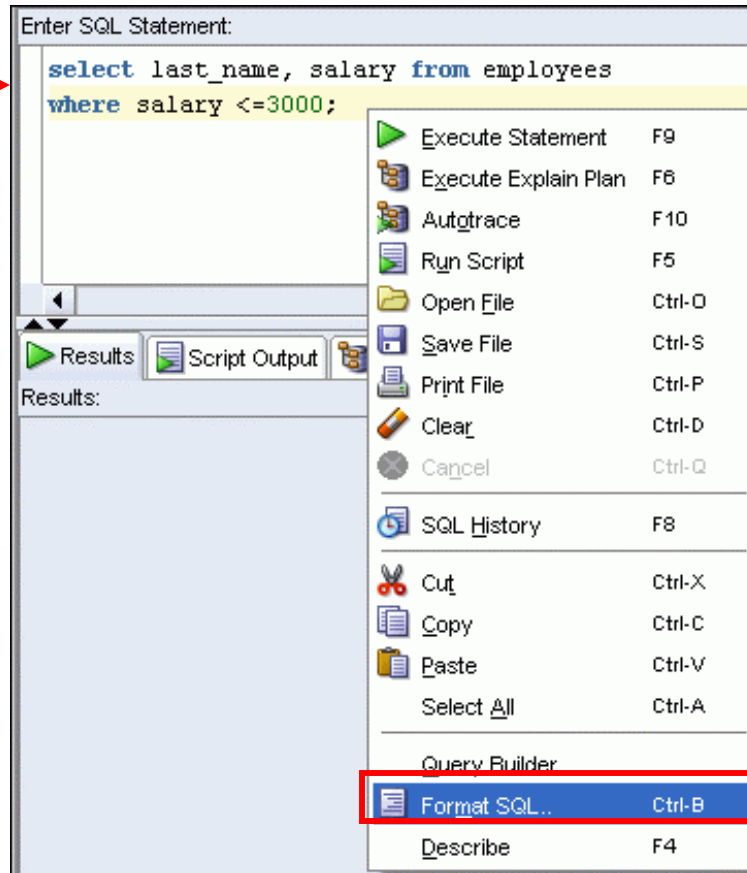
	EMPLOYEE_ID	LAST_NAME
1	100	King
2	101	Kochhar
3	102	De Haan
4	103	Hunold
5	104	Ernst

Script Output Window: This window displays the query results in a text format. The 'Script Output' button (a document icon) is highlighted with a red box and labeled **F5**. The text shows the following data:

EMPLOYEE_ID	LAST_NAME
100	King
101	Kochhar
102	De Haan
103	Hunold
104	Ernst
105	Austin

Formatting the SQL Code

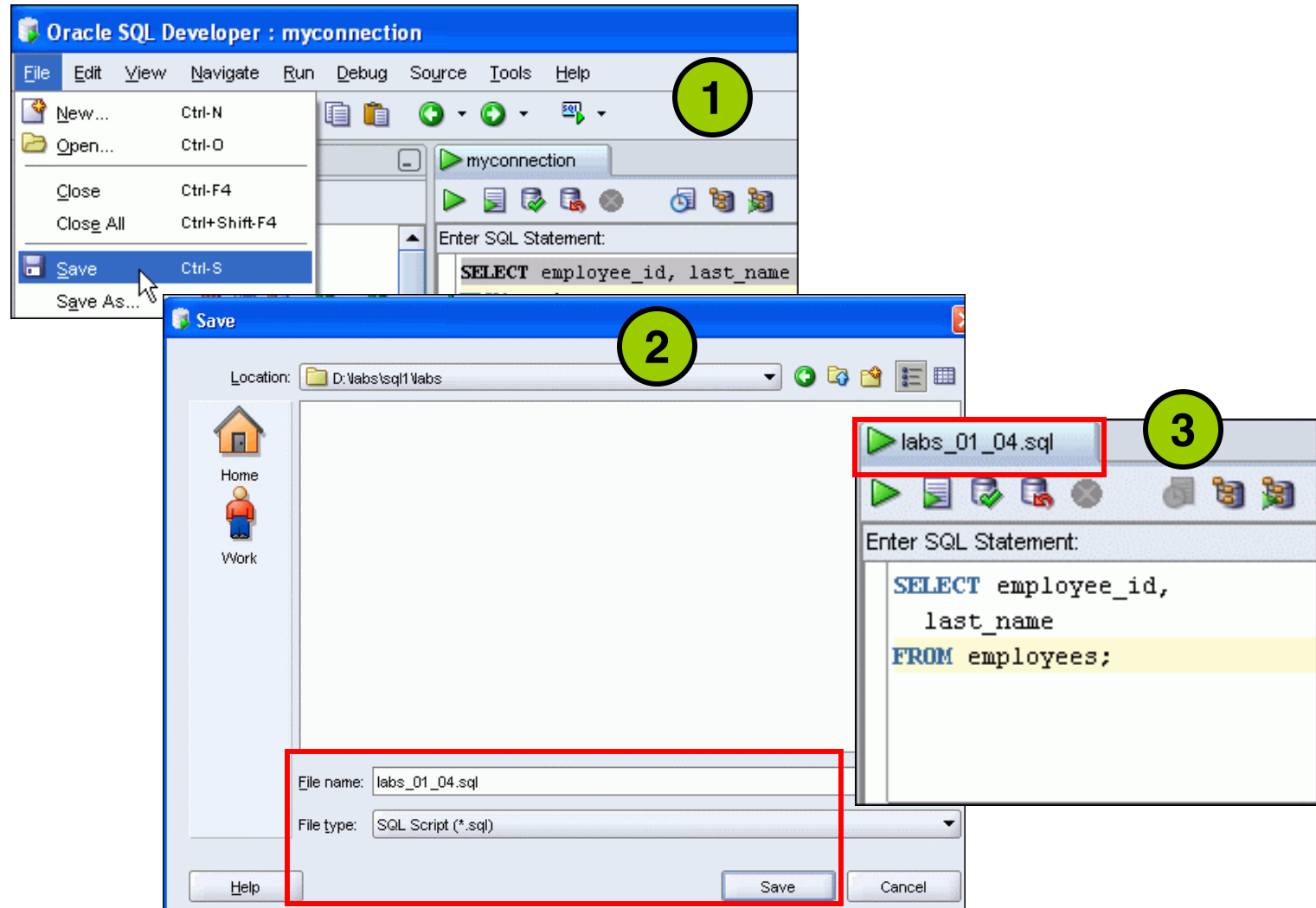
**Before
formatting**



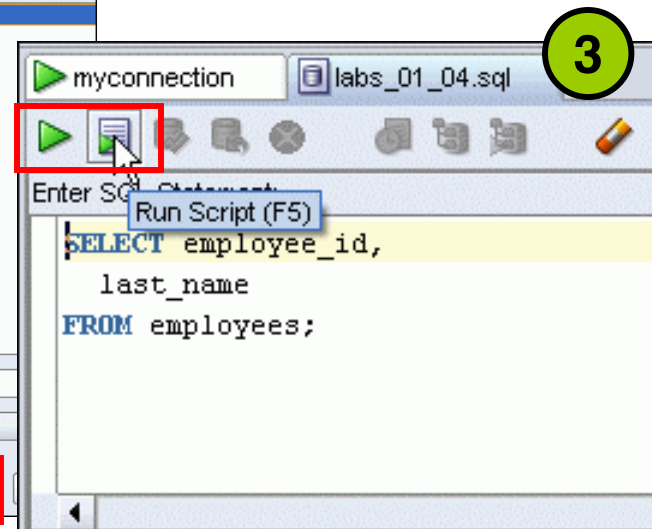
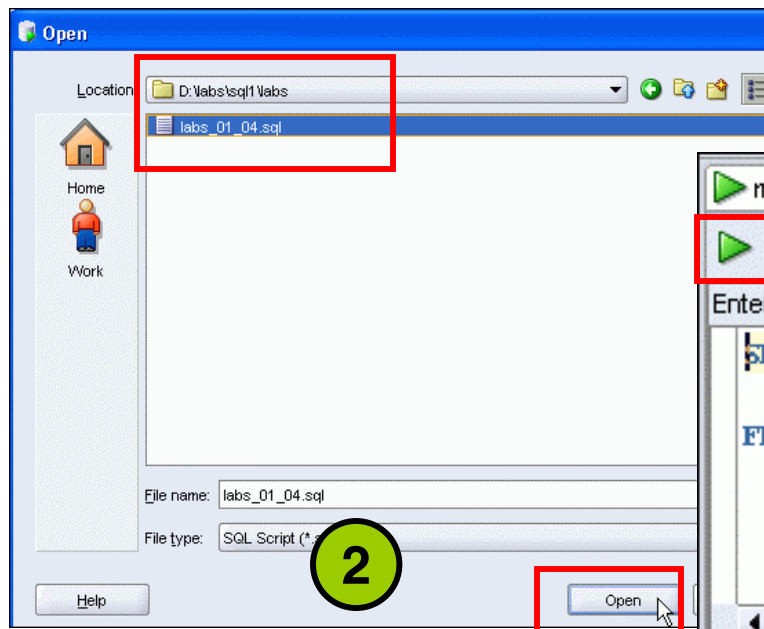
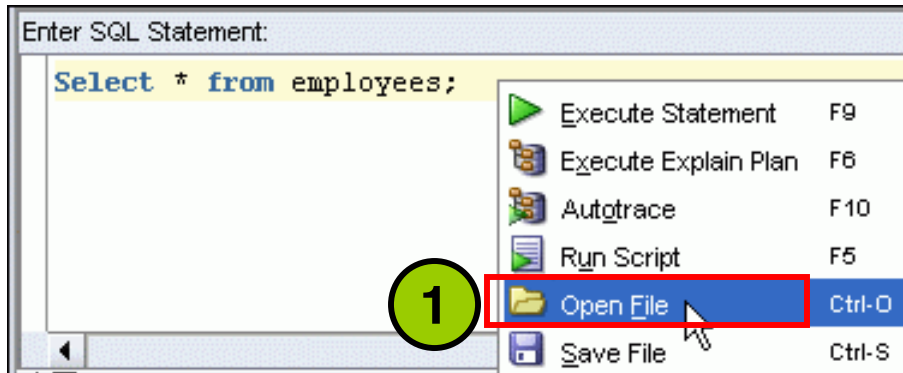
**After
formatting**

```
SELECT last_name,
       salary
FROM employees
WHERE salary <= 3000;
```

Saving SQL Statements

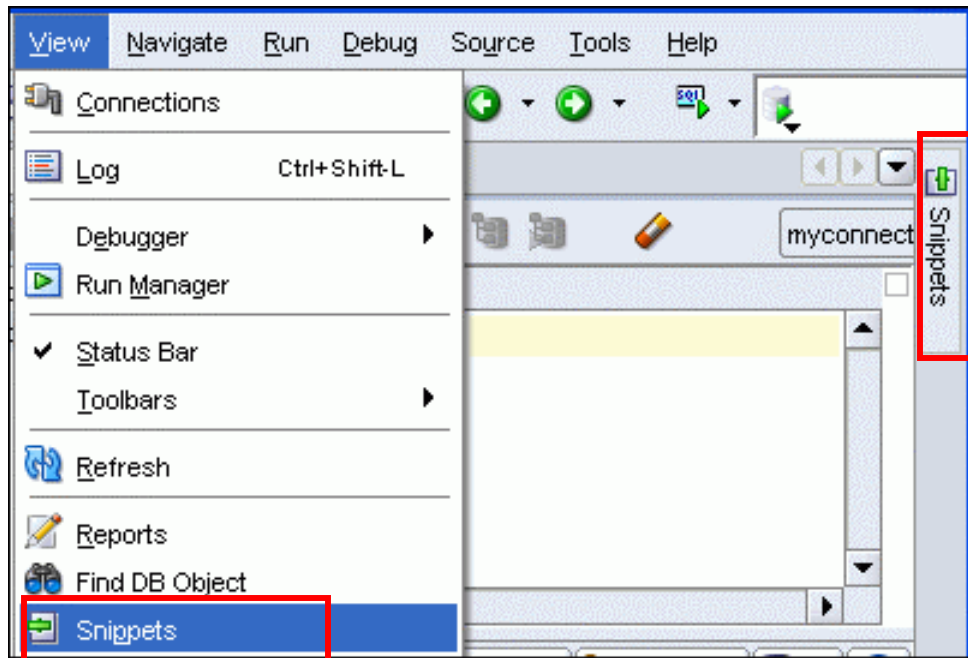


Running Script Files

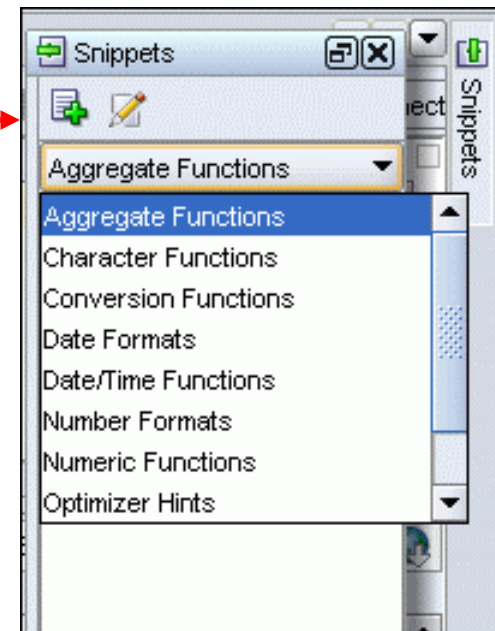


Using Snippets

Snippets are code fragments that may be just syntax or examples.

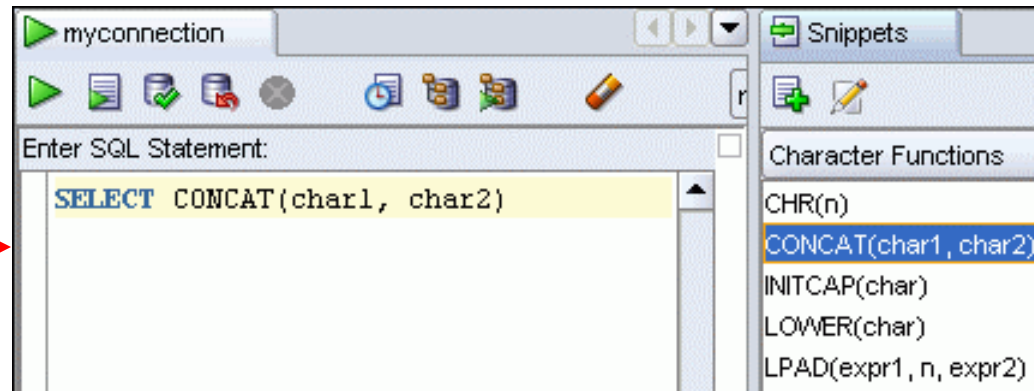


When you place your cursor here, it shows the Snippets window. From the drop-down list, you can select the functions category.

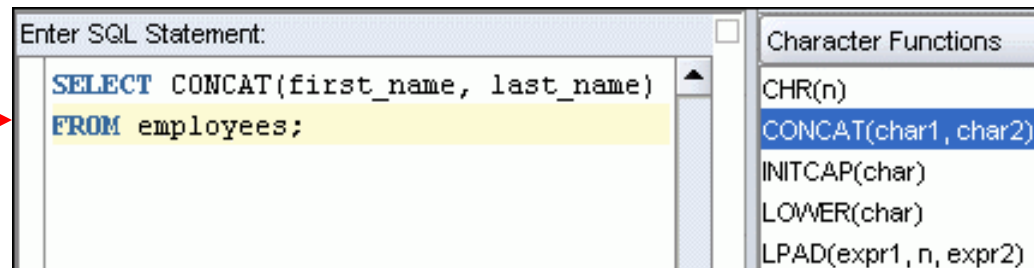


Using Snippets: Example

Inserting a snippet

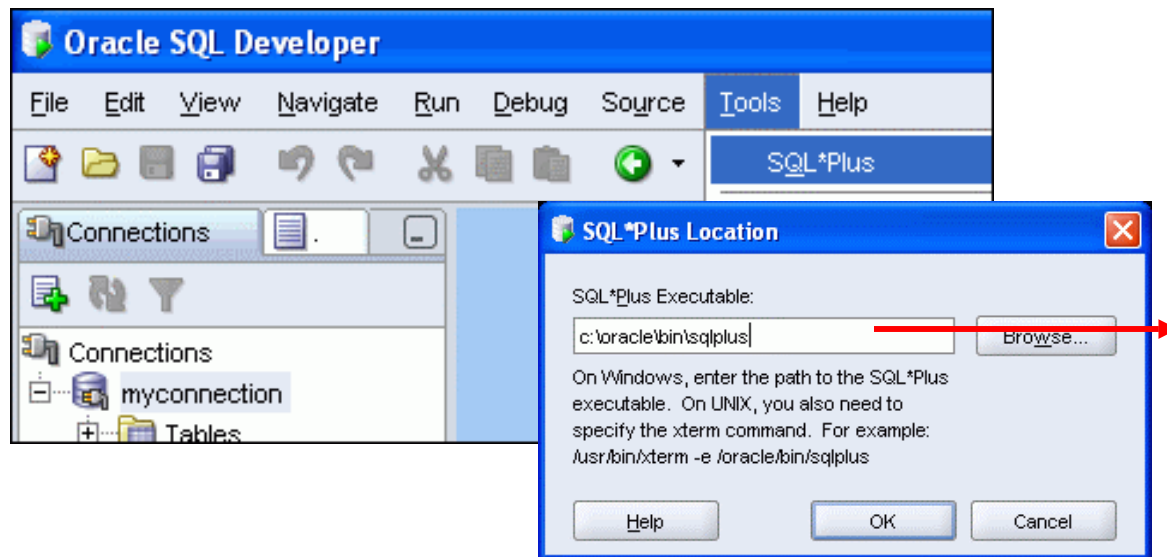


Editing the snippet



Using SQL*Plus

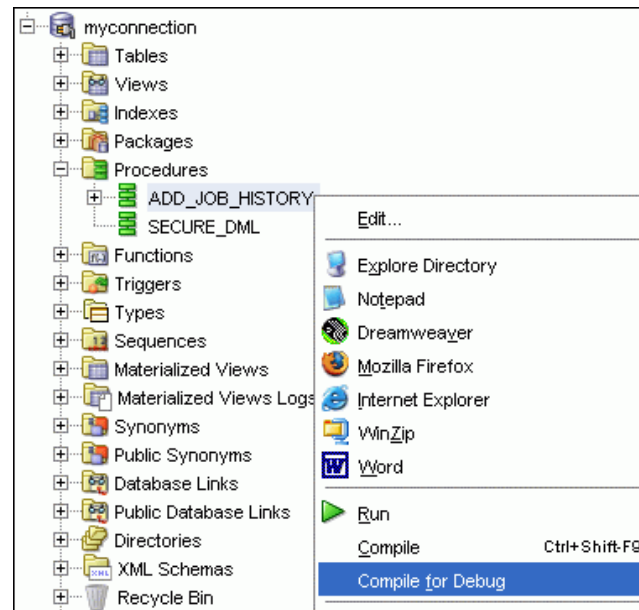
- You can invoke the SQL*Plus command-line interface from SQL Developer.
- Close all SQL worksheets to enable the SQL*Plus menu option.



Provide the location of the sqlplus.exe file only the first time you invoke SQL*Plus.

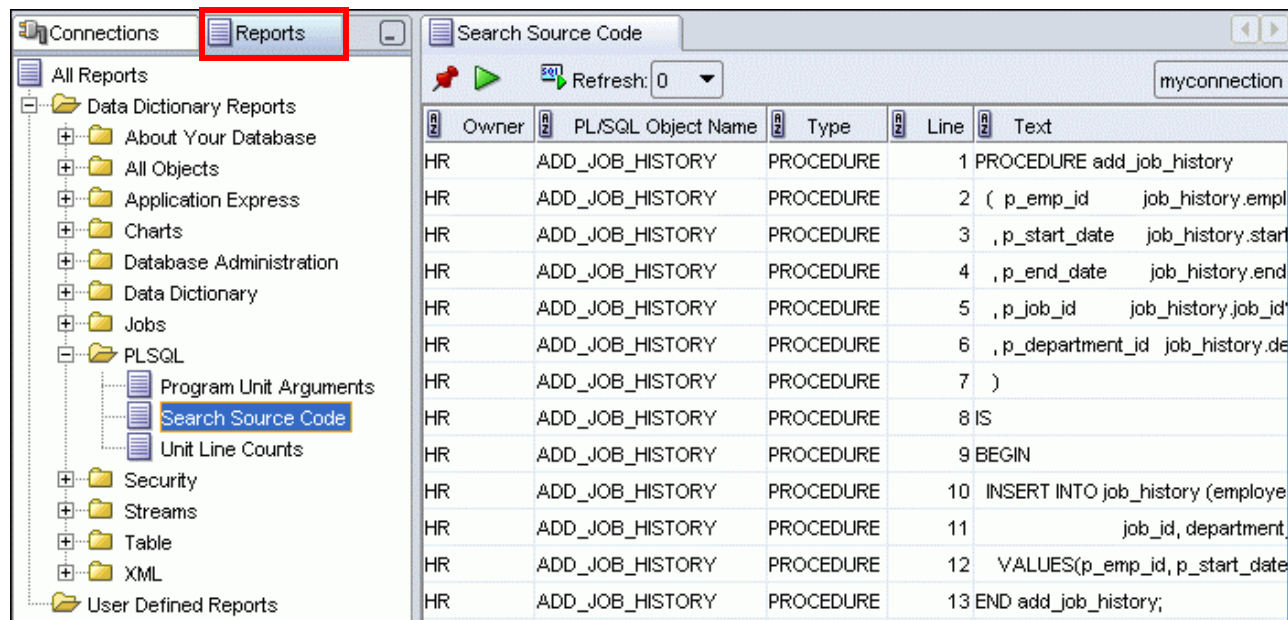
Debugging Procedures and Functions

- Use SQL Developer to debug PL/SQL functions and procedures.
- Use the Compile for Debug option to perform a PL/SQL compilation so that the procedure can be debugged.
- Use the Debug menu options to set breakpoints and to perform step into, step over tasks.



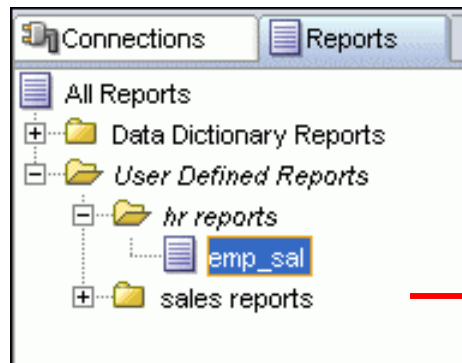
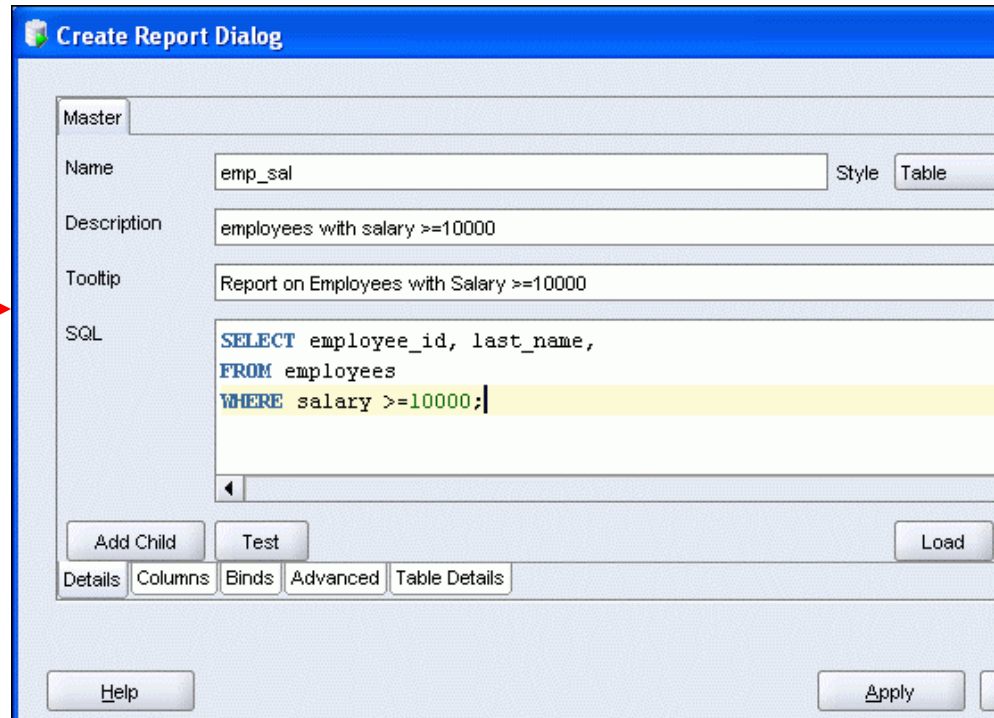
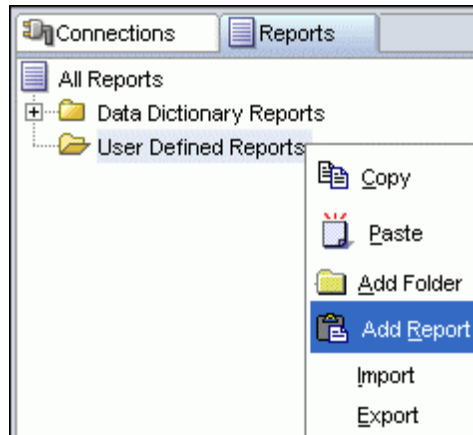
Database Reporting

SQL Developer provides a number of predefined reports about the database and its objects.



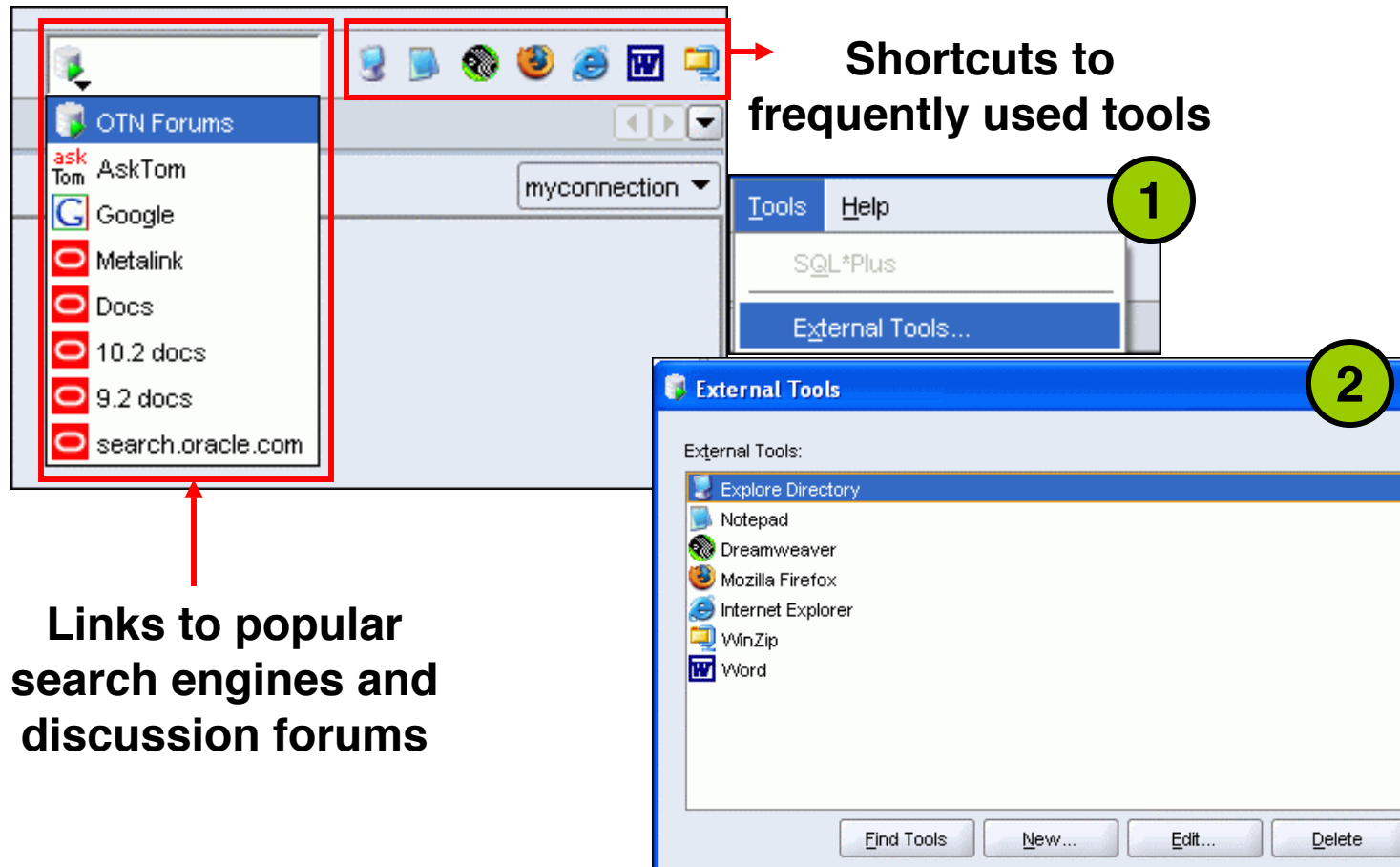
Creating a User-Defined Report

Create and save user-defined reports for repeated use.



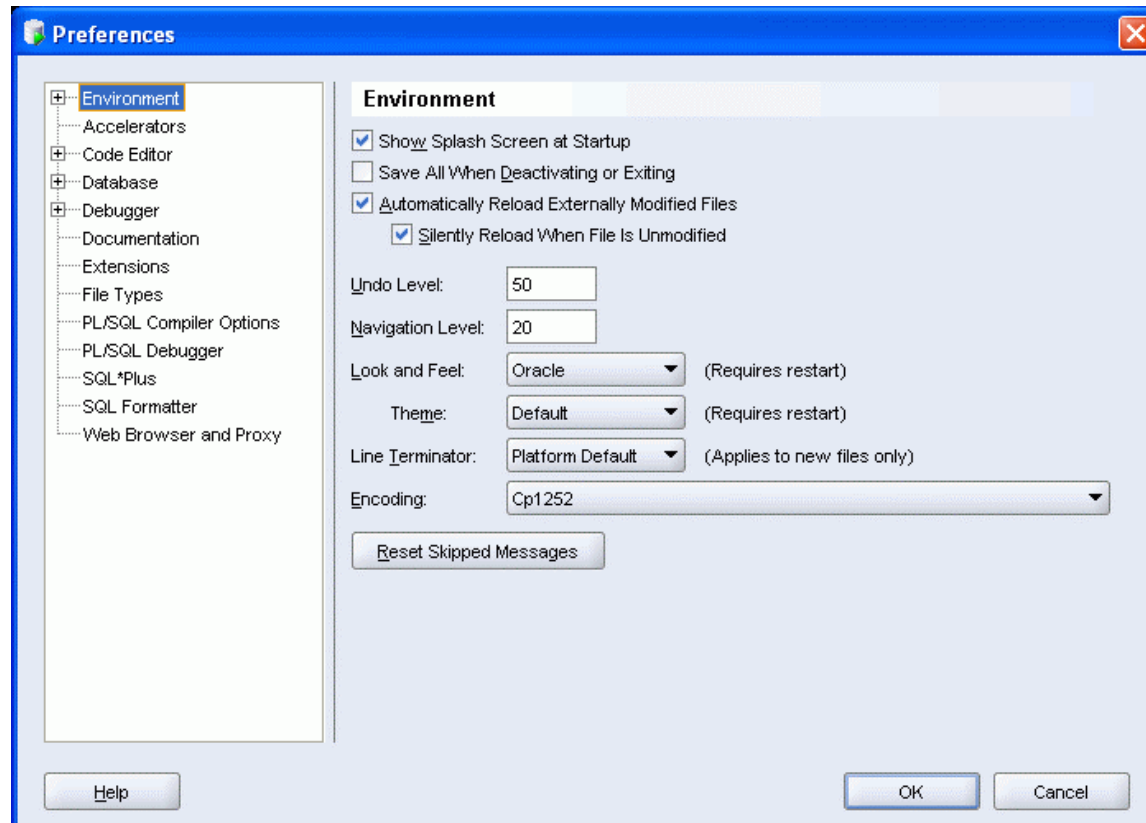
Organize reports in folders

Search Engines and External Tools



Setting Preferences

- Customize the SQL Developer interface and environment.
- From the Tools menu, select Preferences.



Summary

In this appendix, you should have learned how to use SQL Developer to do the following:

- Browse, create, and edit database objects
- Execute SQL statements and scripts in SQL worksheet
- Create and save custom reports