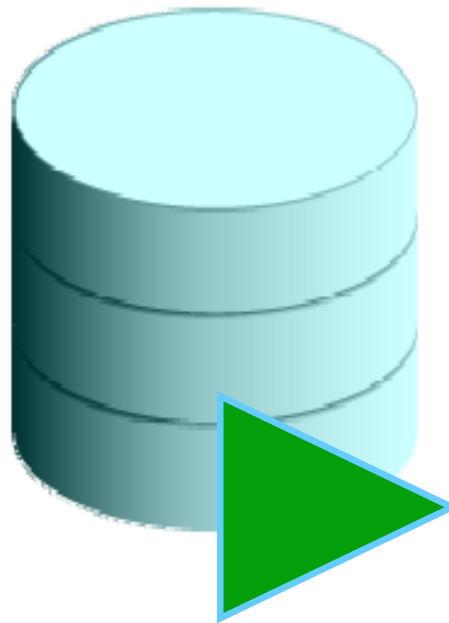# Using SQL Developer

Objectives

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

- List the key features of Oracle SQL Developer
- Identify the 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

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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.
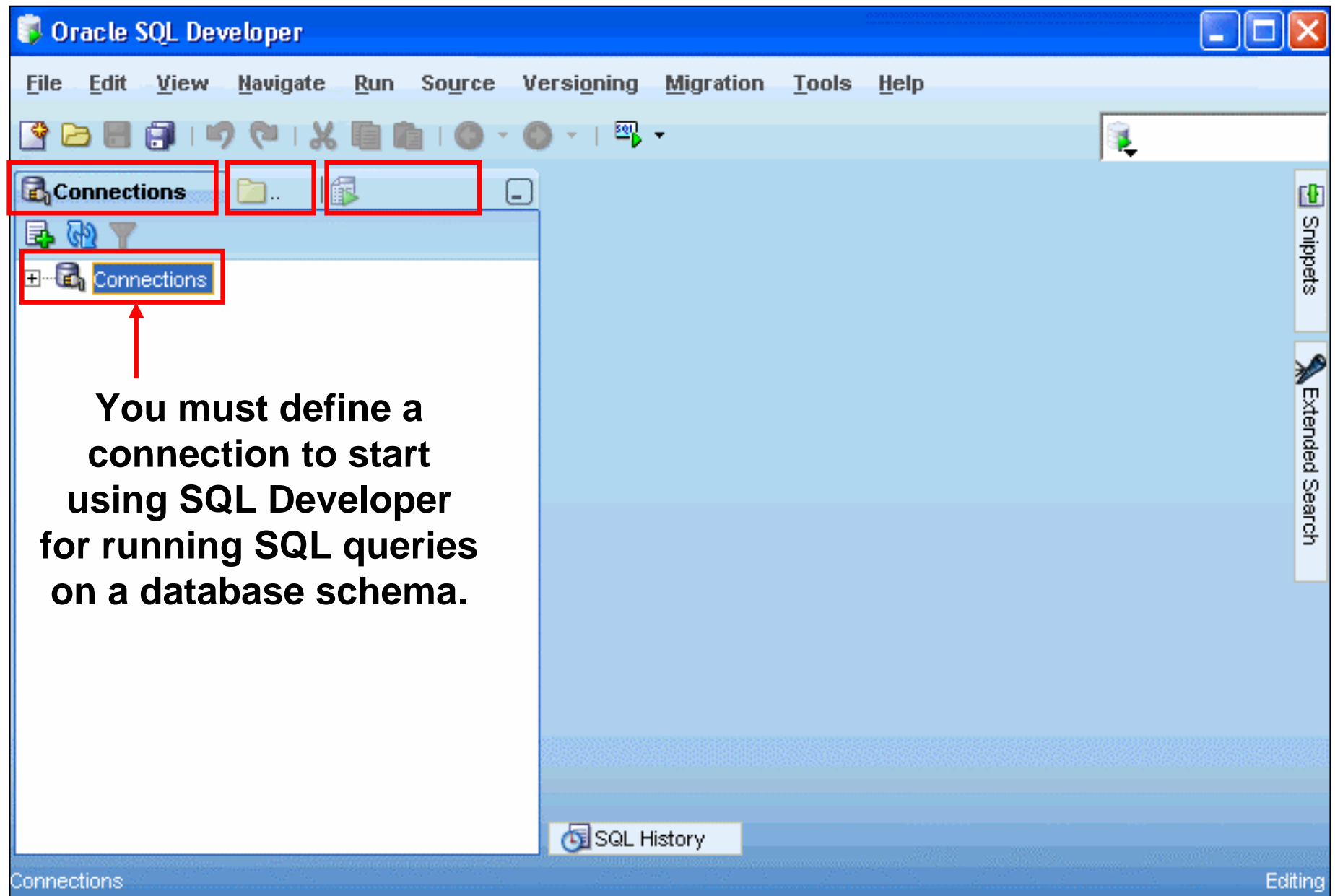
SQL Developer

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Specifications of SQL Developer

- Shipped along with Oracle Database 11*g* Release 2

- Developed in Java

- Supports Windows, Linux, and Mac OS X platforms

- Enables default connectivity using the JDBC Thin driver

- Connects to Oracle Database version 9.2.0.1 and later

- Freely downloadable from the following link:

    – http://www.oracle.com/technology/products/database/
      sql_developer/index.html

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SQL Developer 1.5 Interface

You must define a connection to start using SQL Developer for running SQL queries on a database schema.

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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
  - Multiple schemas

- SQL Developer automatically imports any connections defined in the `tnsnames.ora` file on your system.

- You can export connections to an Extensible Markup Language (XML) file.

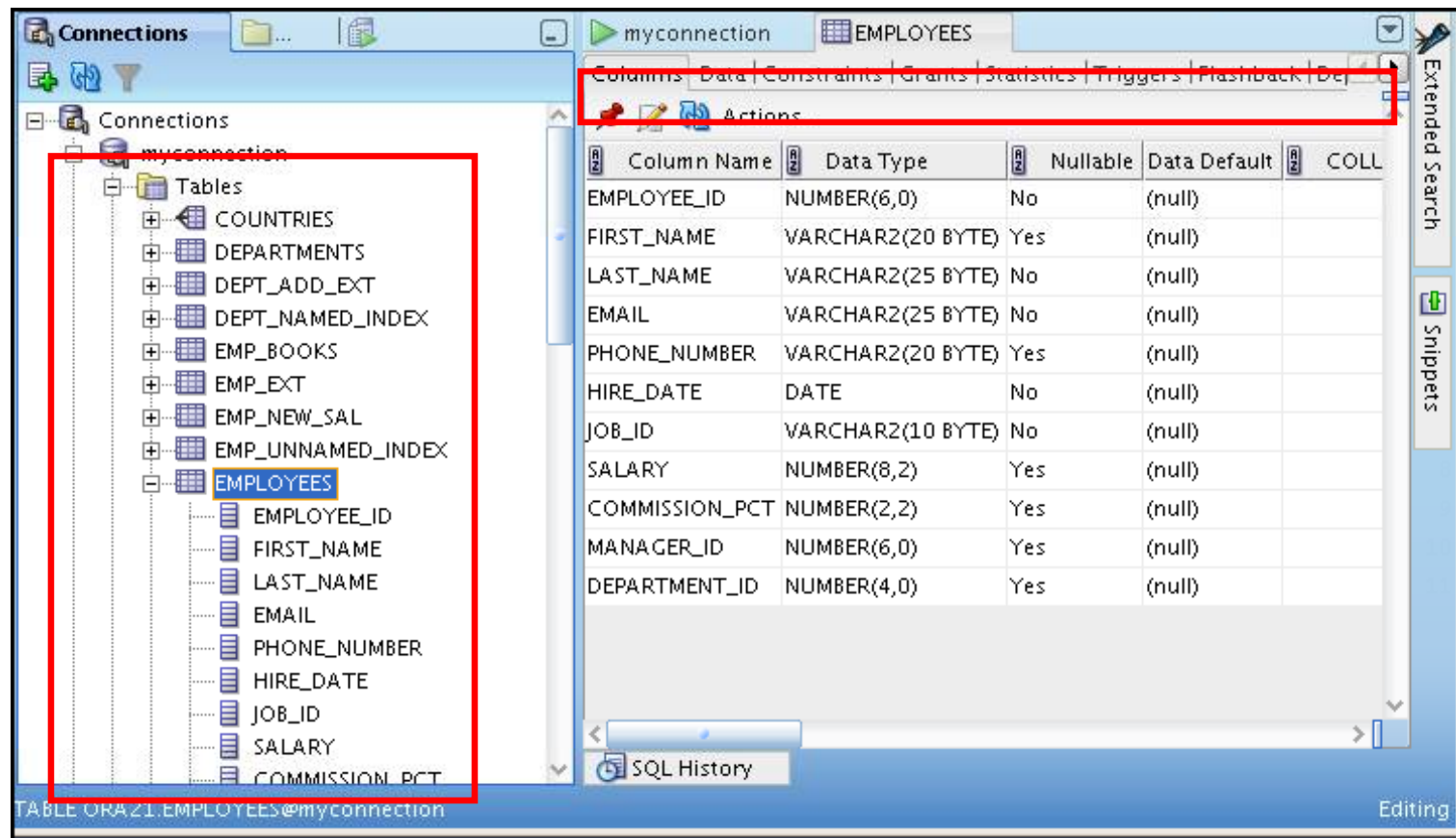- Each additional database connection created is listed in the Connections Navigator hierarchy.

Creating a Database Connection

Copyright © 2009, Oracle. All rights reserved.
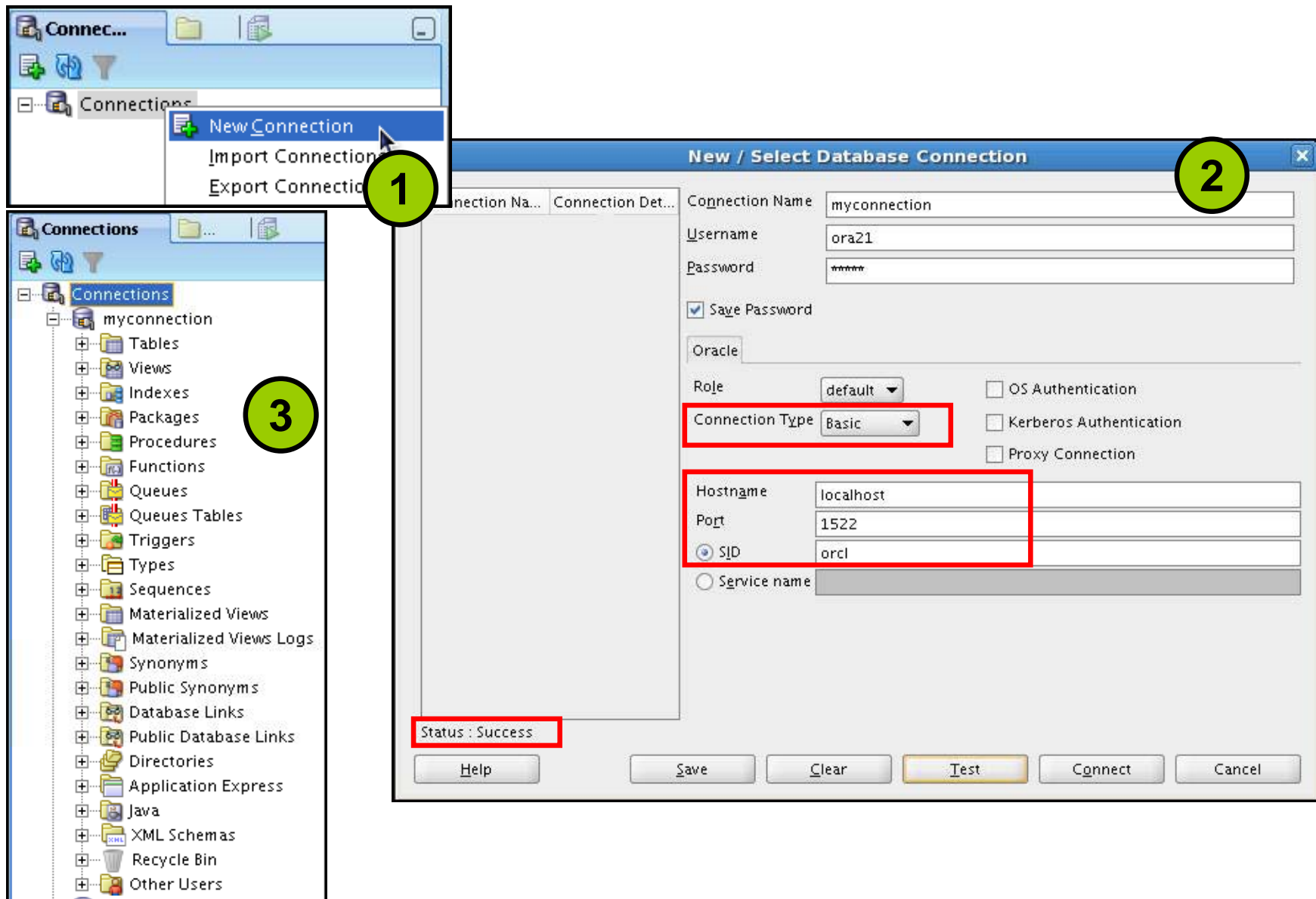
Browsing Database Objects

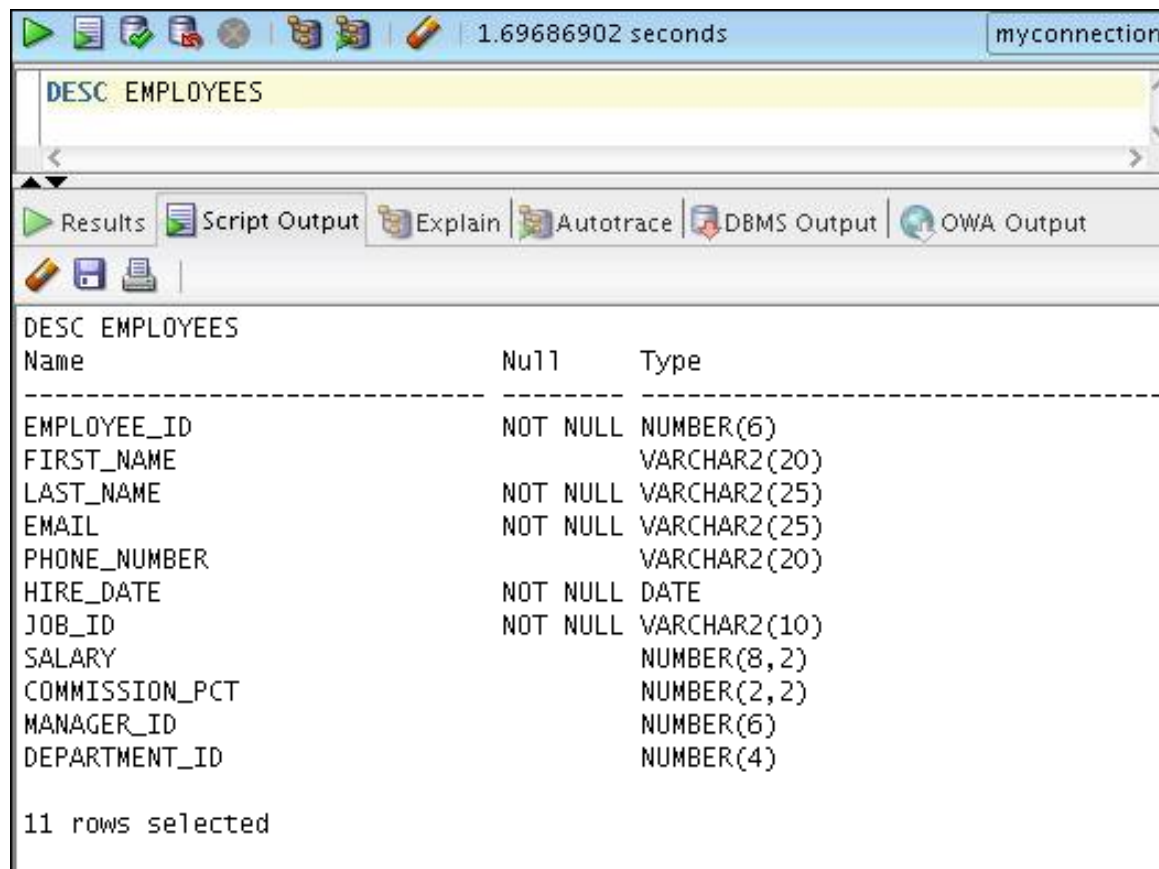Use the Connections Navigator to:

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

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Displaying the Table Structure

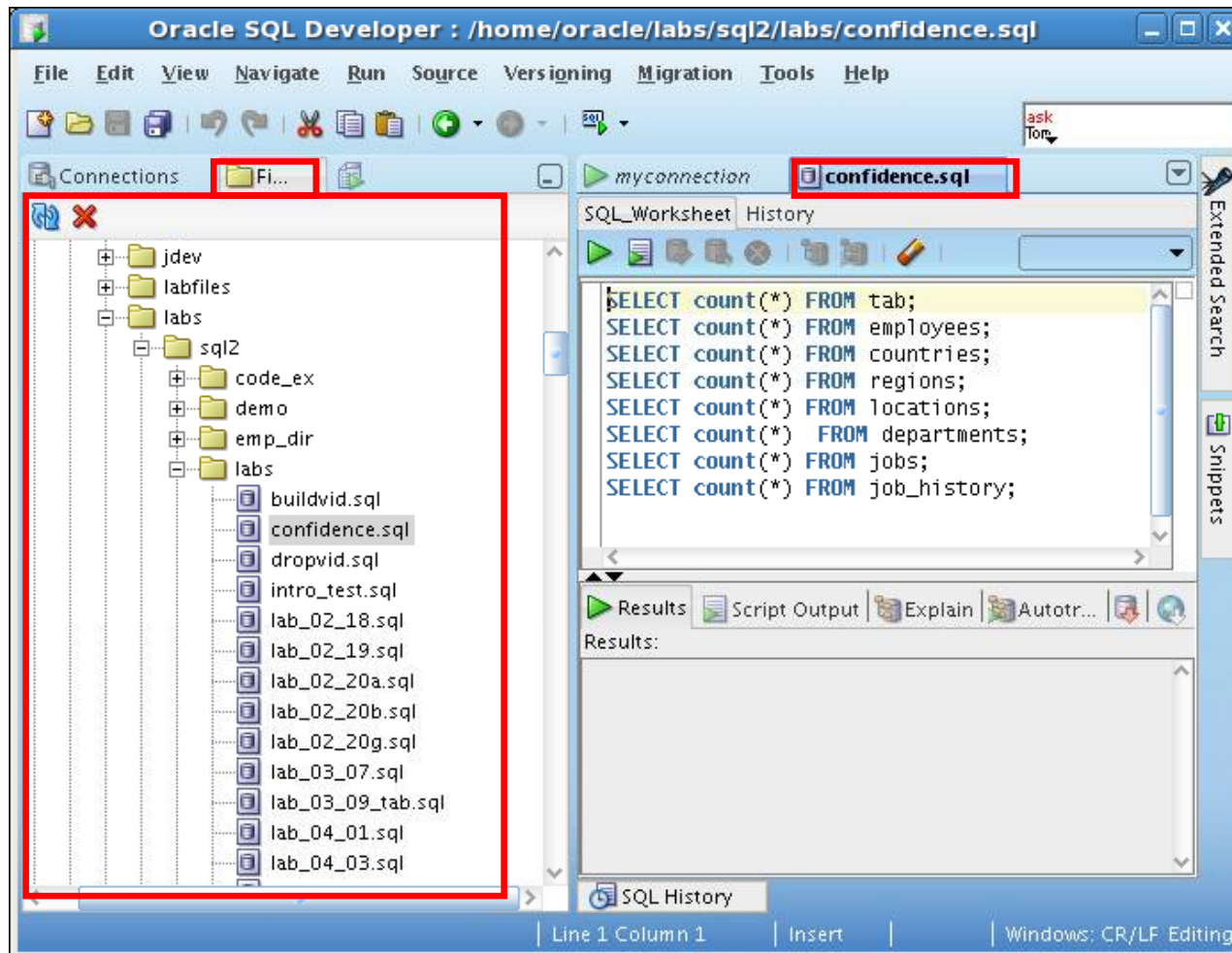Use the `DESCRIBE` command to display the structure of a table:

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Browsing Files

Use the File Navigator to explore the file system and open system files.

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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 box or one of the many context-sensitive menus.
- View the data definition language (DDL) for adjustments such as creating a new object or editing an existing schema object.

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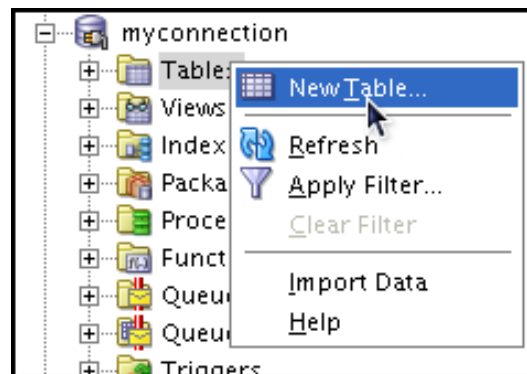
Creating a New Table: Example
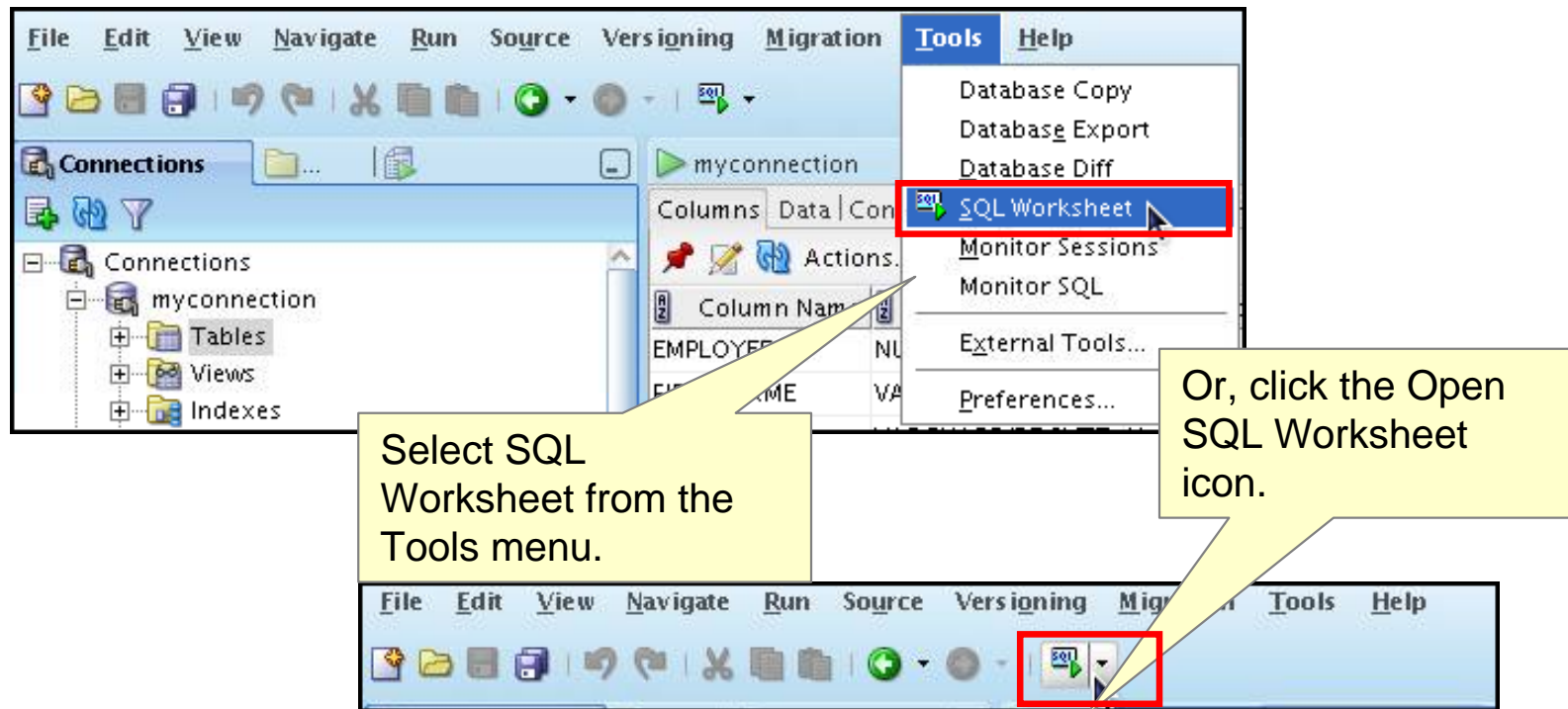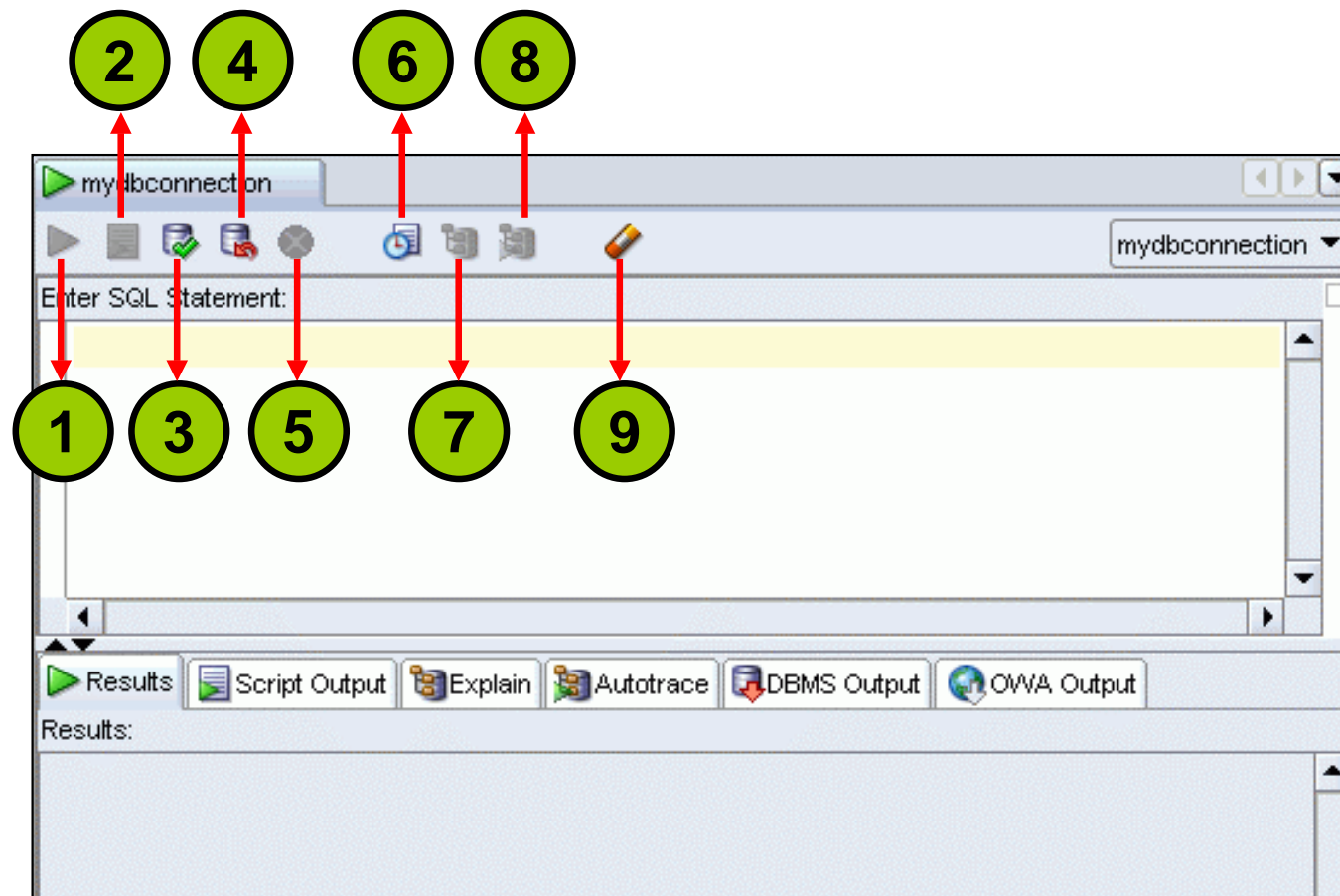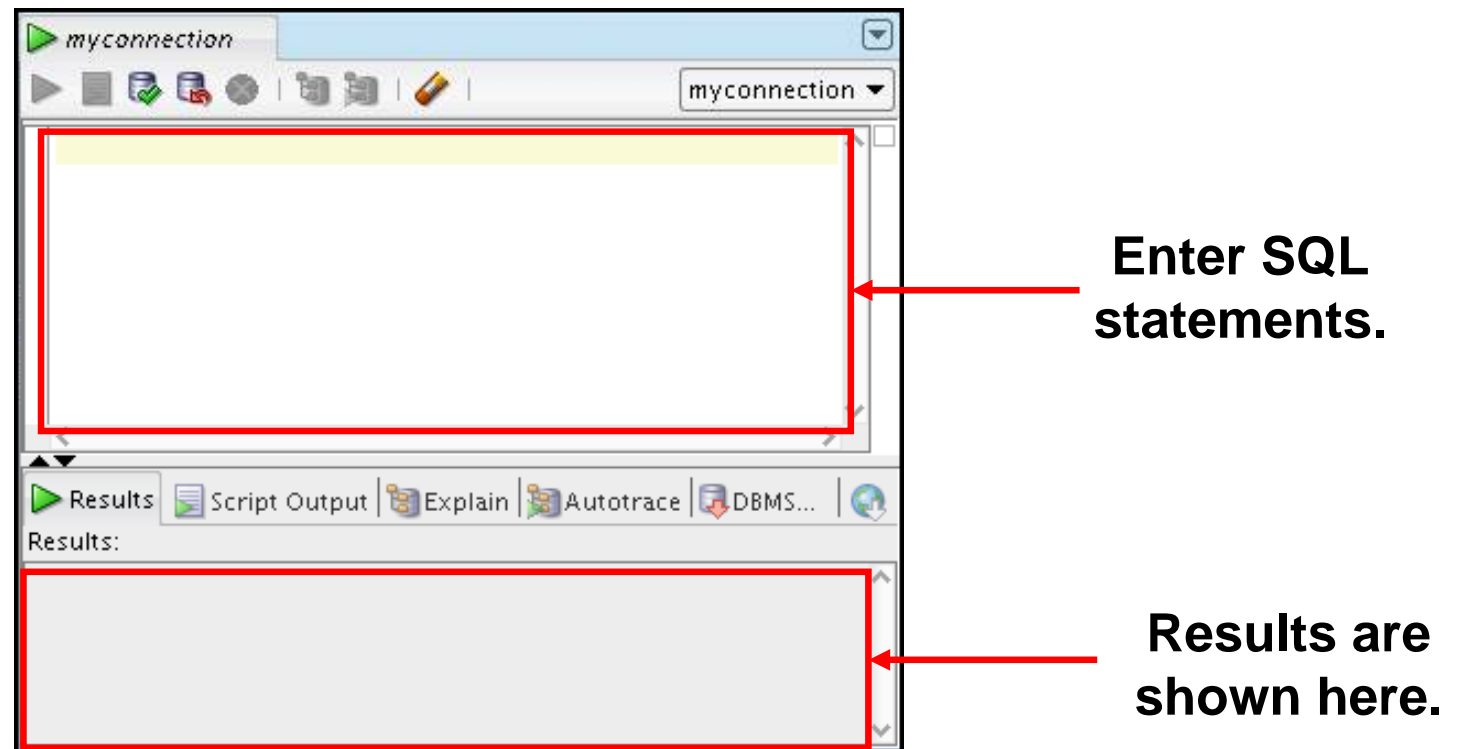
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Using the SQL Worksheet

- Use the SQL Worksheet to enter and execute SQL, PL/SQL, and SQL *Plus statements.

- Specify any actions that can be processed by the database connection associated with the worksheet.

Select SQL Worksheet from the Tools menu.

Or, click the Open SQL Worksheet icon.

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Using the SQL Worksheet

Using the SQL Worksheet

Enter SQL statements.

Results are shown here.

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Executing SQL Statements

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

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Saving SQL Scripts

1 Click the Save icon to save your SQL statement to a file.

File Edit ~~~ew~~ Navigate Run Source Versioning Migration Tools Help

Save

Location: /home/oracle/labs
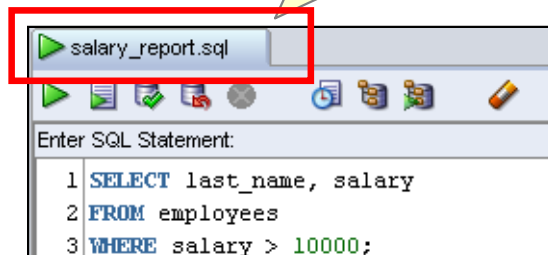
Desktop

Home

- plpu
- plsf
- sql1
- sql2

2 Identify a location, enter a file name, and click Save.
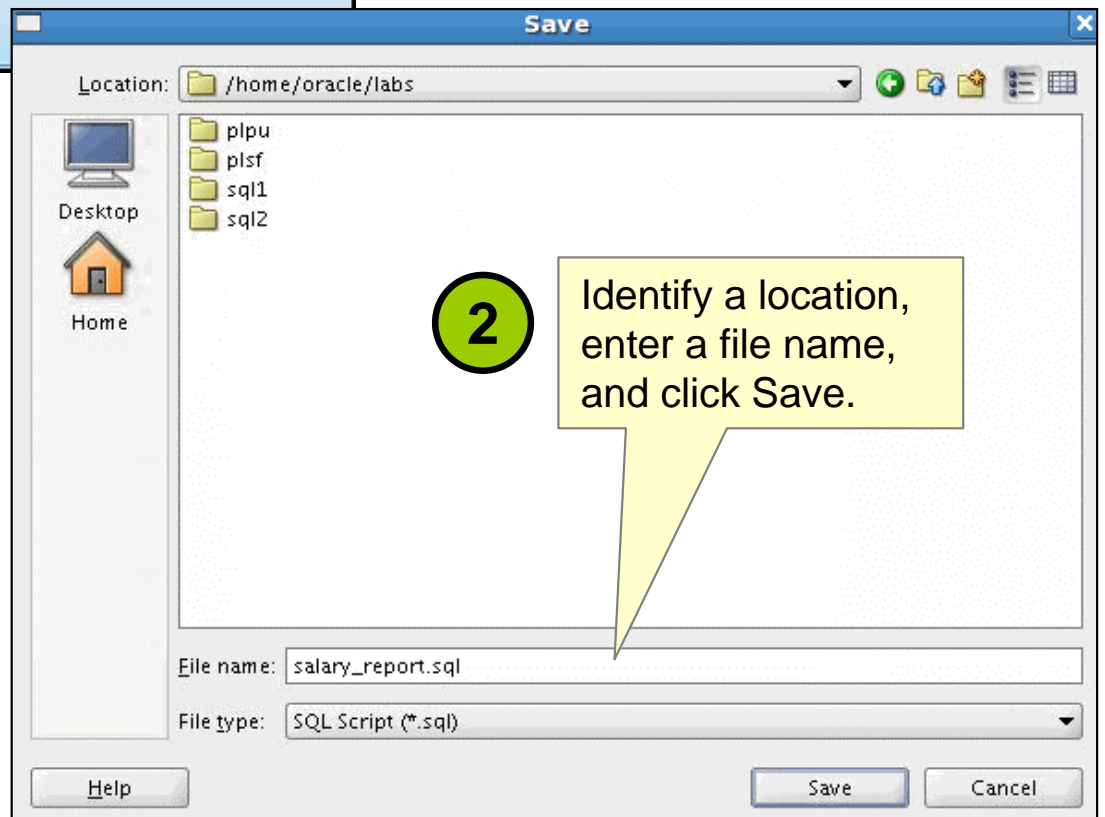
3 The contents of the saved file are visible and editable in your SQL Worksheet window.

salary_report.sql

Enter SQL Statement:

```
1  SELECT last_name, salary
2  FROM employees
3  WHERE salary > 10000;
```

File name: salary_report.sql

File type: SQL Script (*.sql)

Help   Save   Cancel

Executing Saved Script Files: Method 1

1. Use the Files tab to locate the script file that you want to open.
2. Double-click the script to display the code in the SQL Worksheet.

(1)

(2)

(3)

To run the code, click either:
- Execute Script (F9), or
- Run Script (F5)

Select a connection from the drop-down list.

```
Connections    Fi...
jdev
labfiles
labs
    sql2
        code_ex
        demo
        emp_dir
        labs
            buildvid.sql
            confidence.sql
            dropvid.sql
            intro_test.sql
            lab_02_18.sql
            lab_02_19.sql
            lab_02_20a.sql
            lab_02_20b.sql
            lab_02_20g.sql
            lab_03_07.sql
            lab_03_09_tab.sql
            lab_04_01.sql
            lab_04_03.sql
```

```
my...ction    confidence.sql
SQL W...ksheet   History

                                        myconnection
SELECT count(*) FROM tab;
SELECT count(*) FROM employees;
SELECT count(*) FROM countries;
SELECT count(*) FROM regions;
SELECT count(*) FROM locations;
SELECT count(*)  FROM departments;
SELECT count(*) FROM jobs;
SELECT count(*) FROM job_history;
```
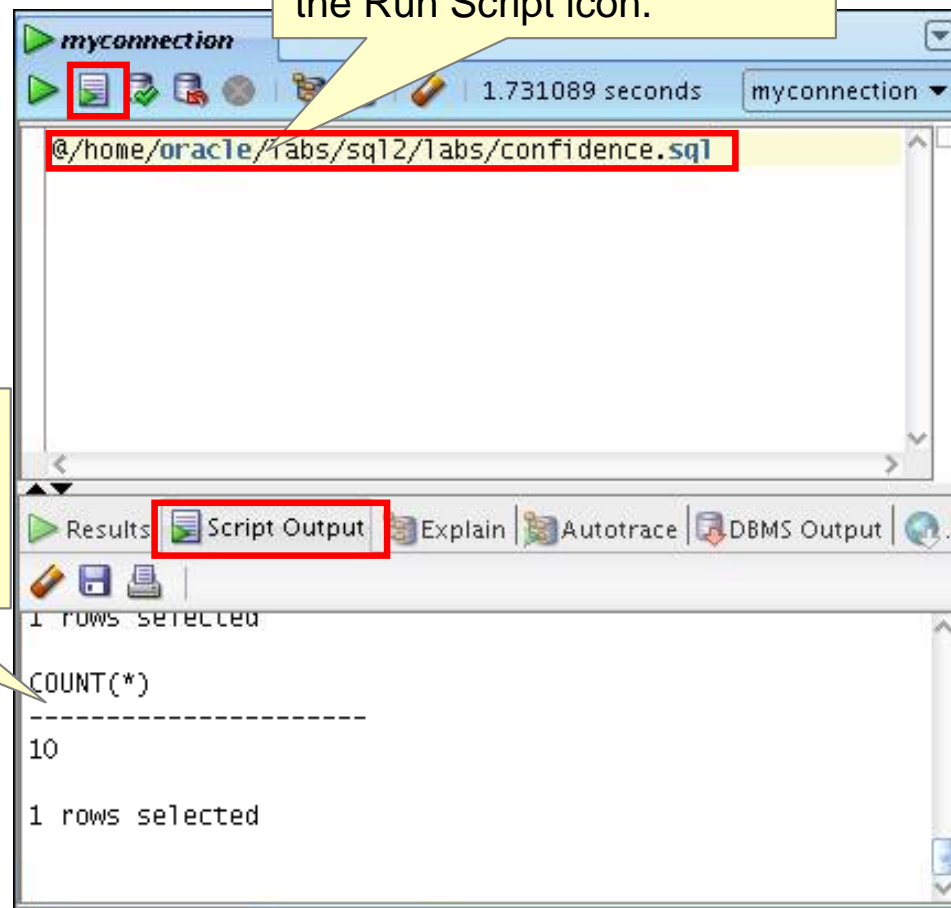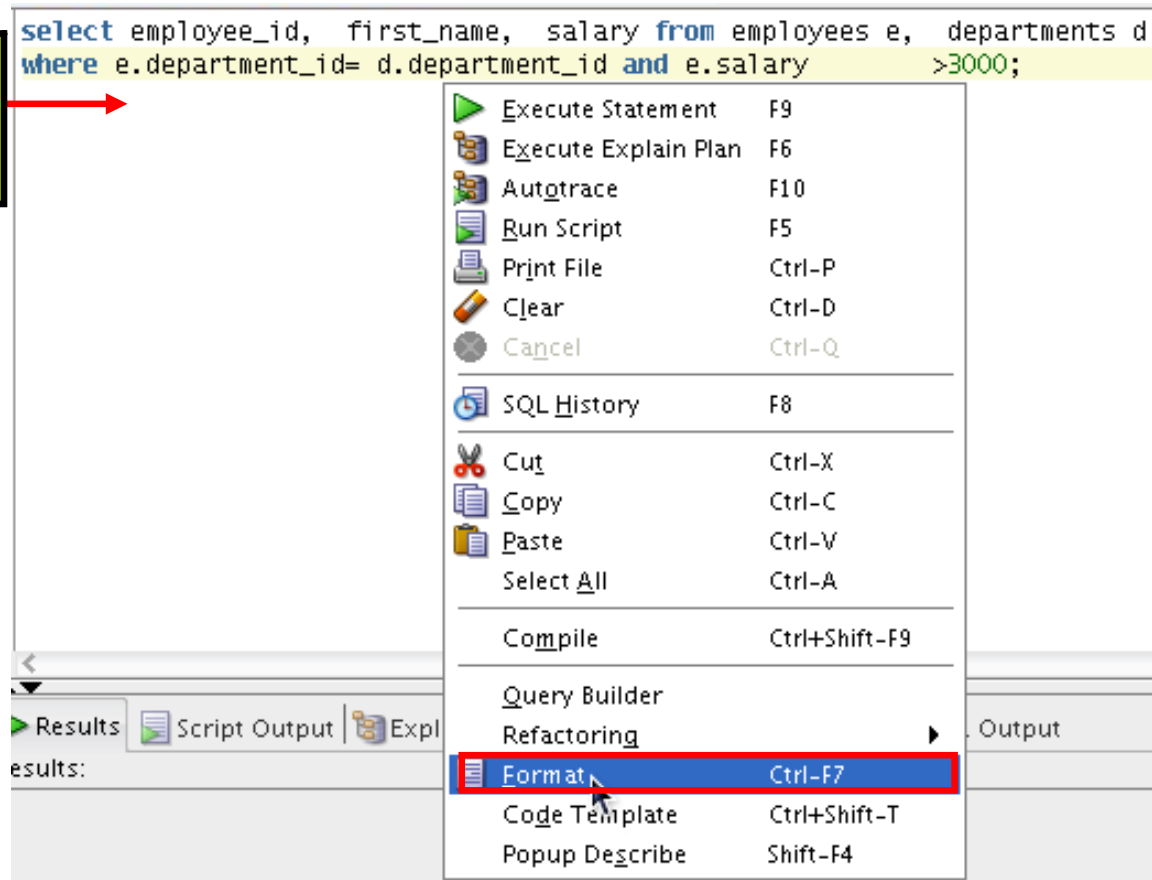
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Executing Saved Script Files: Method 2

Use the @ command followed by the location and name of the file that you want to execute, and click the Run Script icon.

▶ *myconnection*

▶ 🗐 📑 🔙 ⊗ | 🔧 | 🖊 | 1.731089 seconds   myconnection ▼

@/home/oracle/labs/sql2/labs/confidence.sql

The output from the script is displayed on the Script Output tabbed page.

▶ Results 🗐 Script Output 🗐 Explain 🗐 Autotrace 🗐 DBMS Output 🌐 .

🖊 🖫 🖨 |

1 rows selected

COUNT(*)

10

1 rows selected

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Formatting the SQL Code

Before formatting

```
select employee_id,  first_name,  salary from employees e,  departments d
where e.department_id= d.department_id and e.salary       >3000;
```

▶	Execute Statement	F9
	Execute Explain Plan	F6
	Autotrace	F10
	Run Script	F5
	Print File	Ctrl-P
	Clear	Ctrl-D
	Cancel	Ctrl-Q
	SQL History	F8
✂	Cut	Ctrl-X
	Copy	Ctrl-C
	Paste	Ctrl-V
	Select All	Ctrl-A
	Compile	Ctrl+Shift-F9
	Query Builder	
	Refactoring	▶
	Format	Ctrl-F7
	Code Template	Ctrl+Shift-T
	Popup Describe	Shift-F4

▶ Results   Script Output   Expl   . Output

esults:

After formatting

```
SELECT employee_id,
    first_name,
    salary
FROM employees e,
    departments d
WHERE e.department_id= d.department_id
AND e.salary        > 3000;
```

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Using Snippets

Snippets are code fragments that may be just syntax or examples.
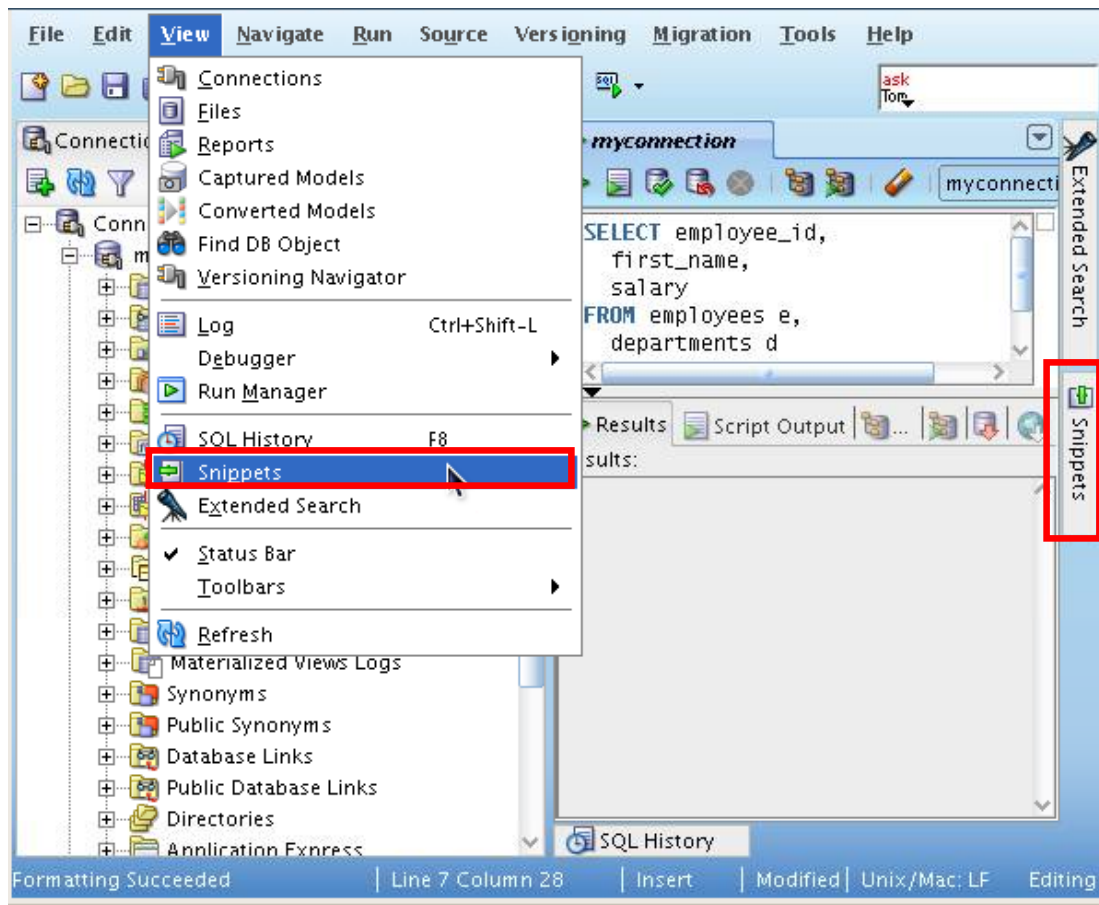
When you place your cursor here, it shows the Snippets window. From the drop-down list, you can select the functions category that you want.

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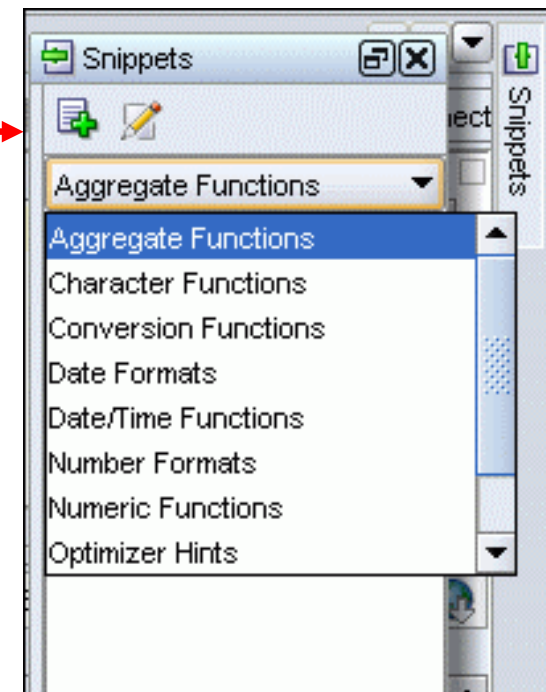
Using Snippets: Example

Inserting a snippet
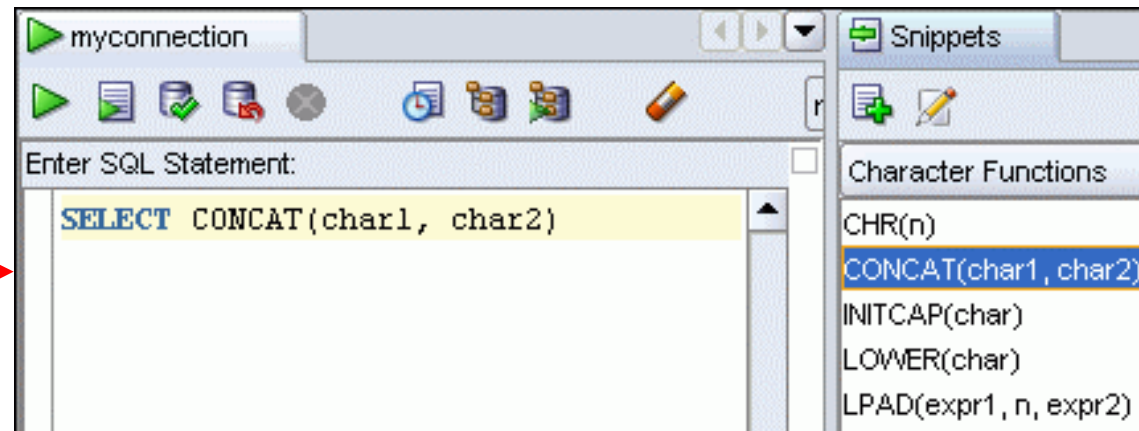
Editing the snippet

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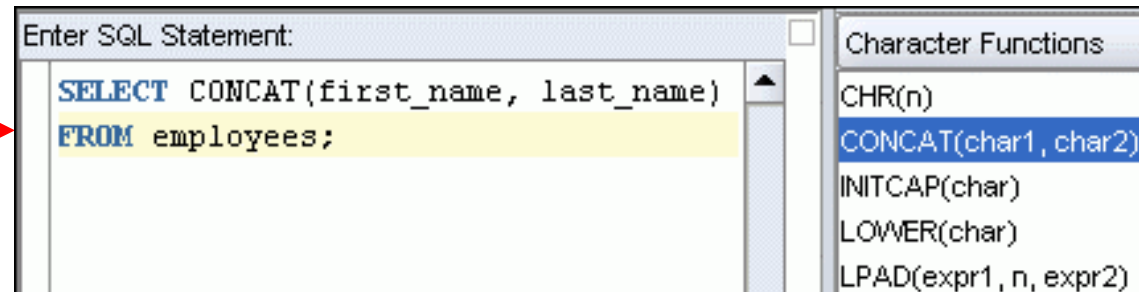
Debugging Procedures and Functions
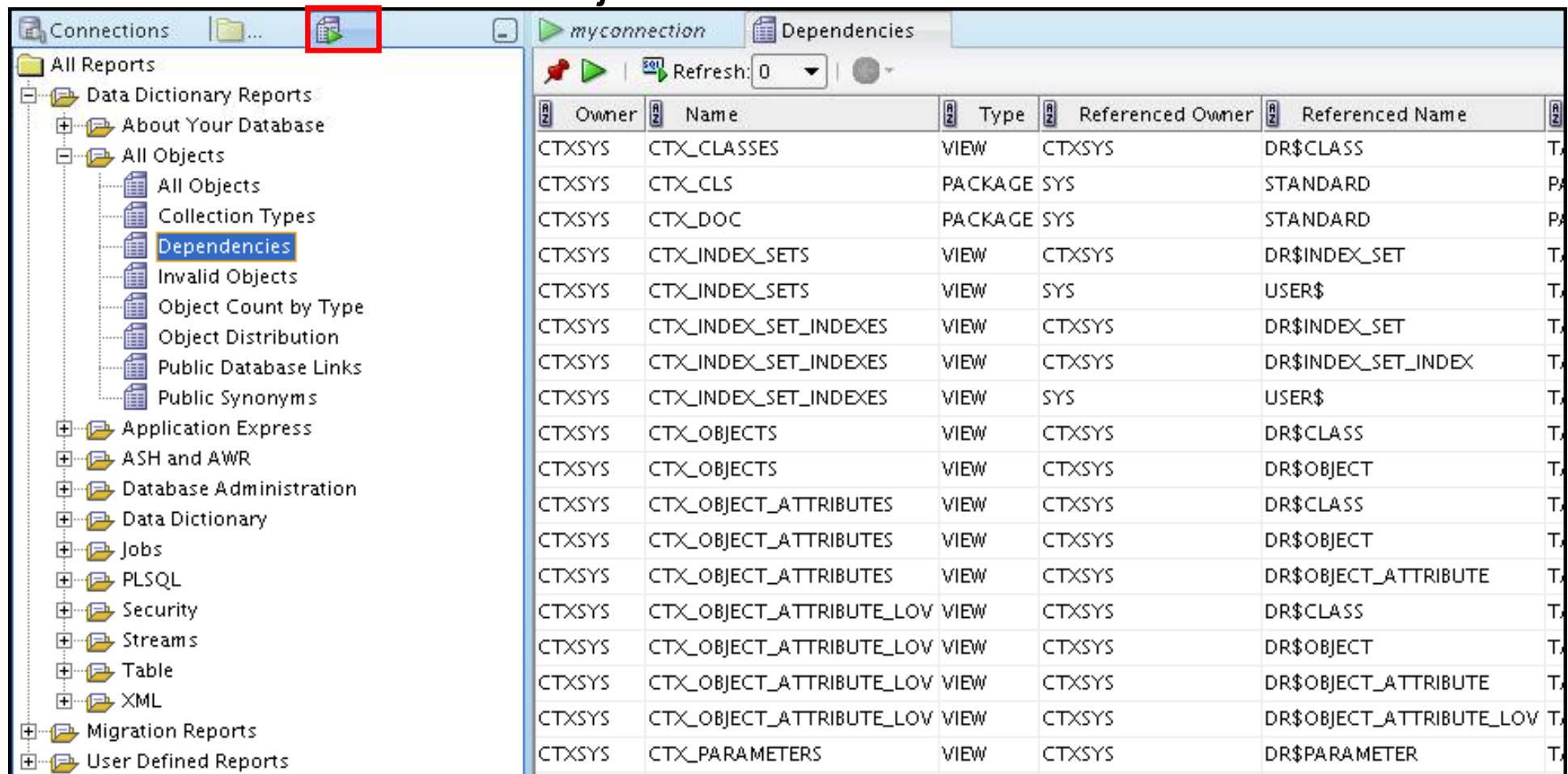
- Use SQL Developer to debug PL/SQL functions and procedures.

- 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.

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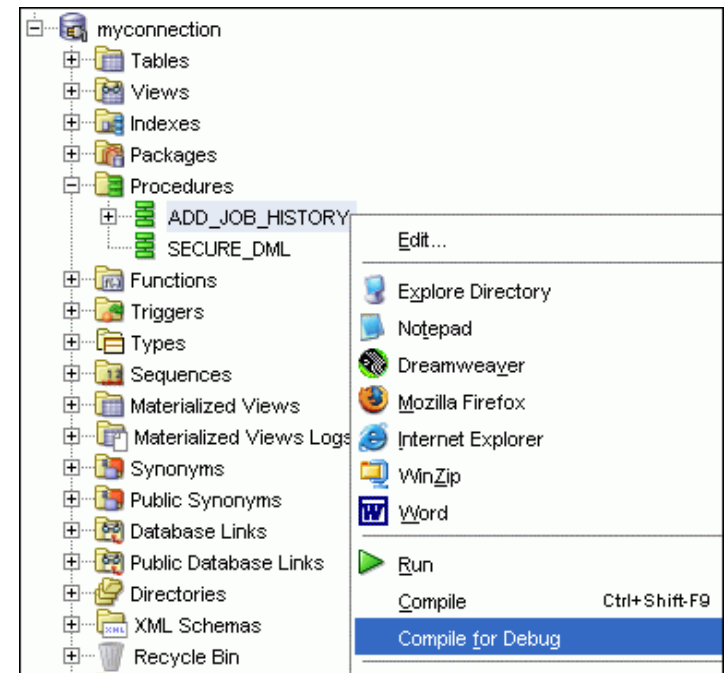
Database Reporting

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.
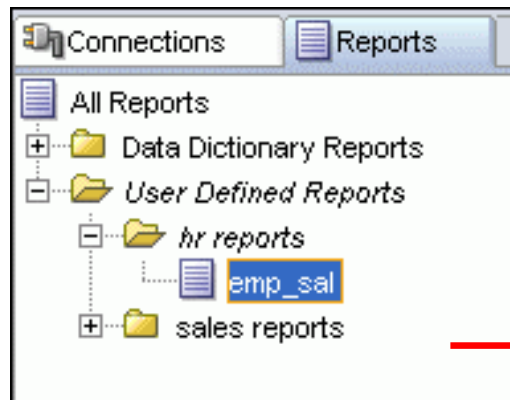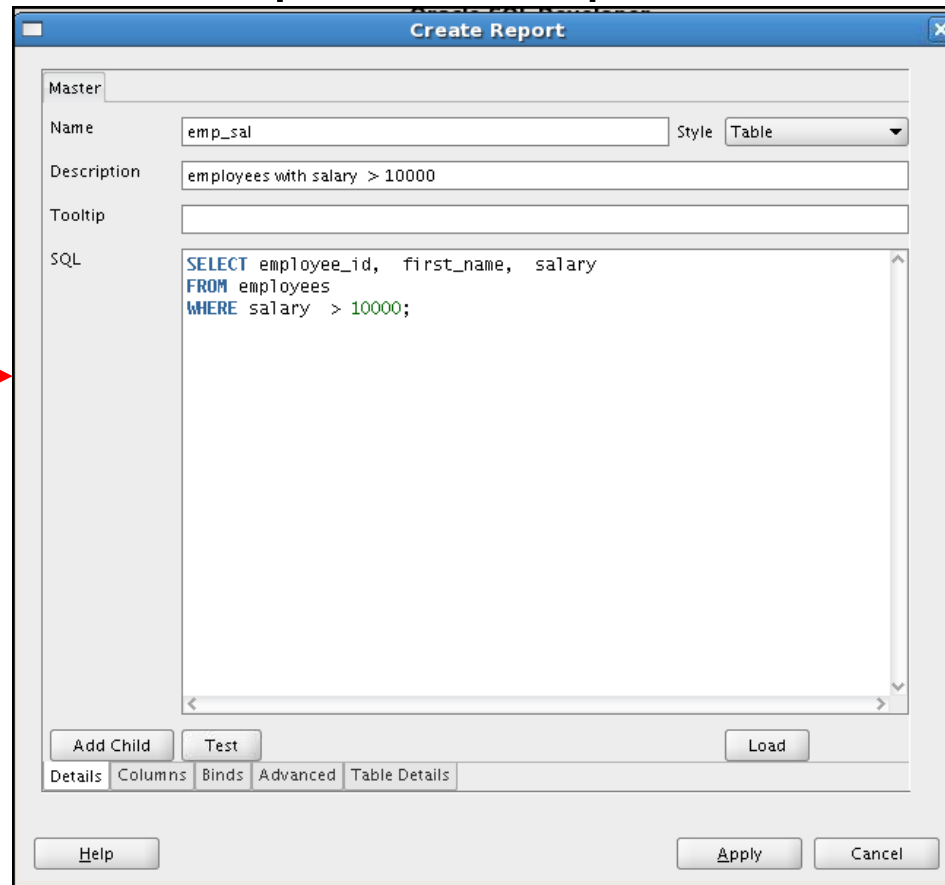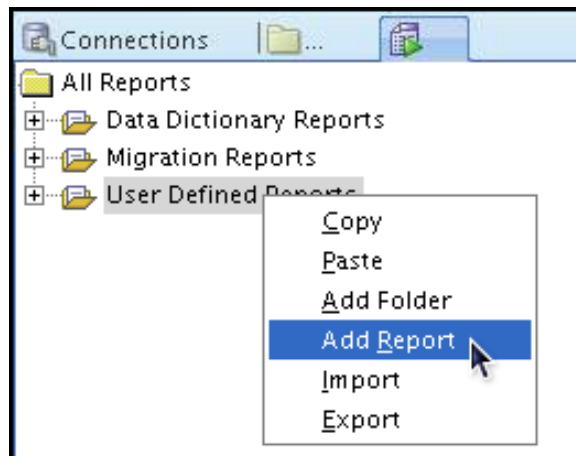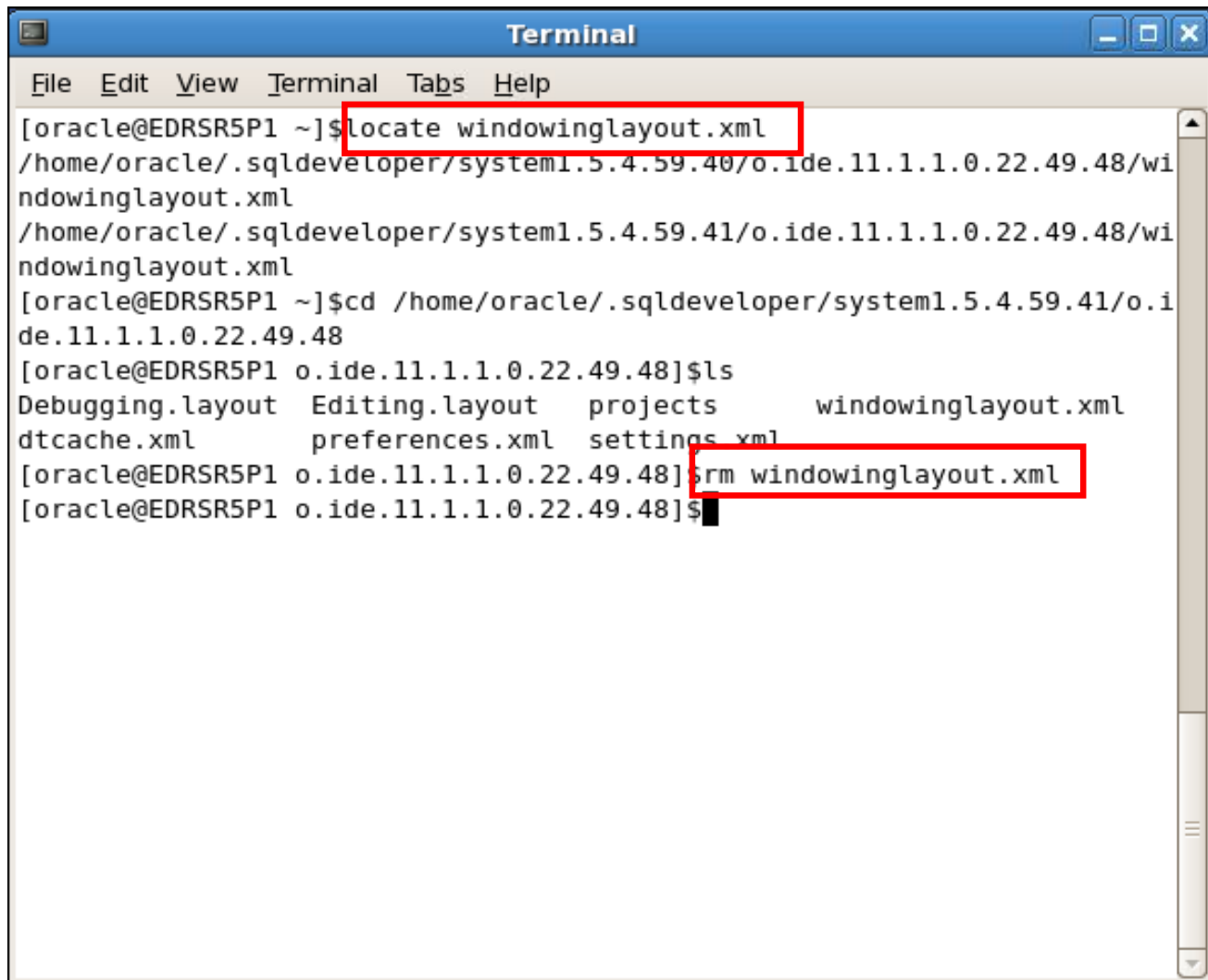

Organize reports in folders.

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Search Engines and External Tools

Shortcuts to frequently used tools

Links to popular search engines and discussion forums
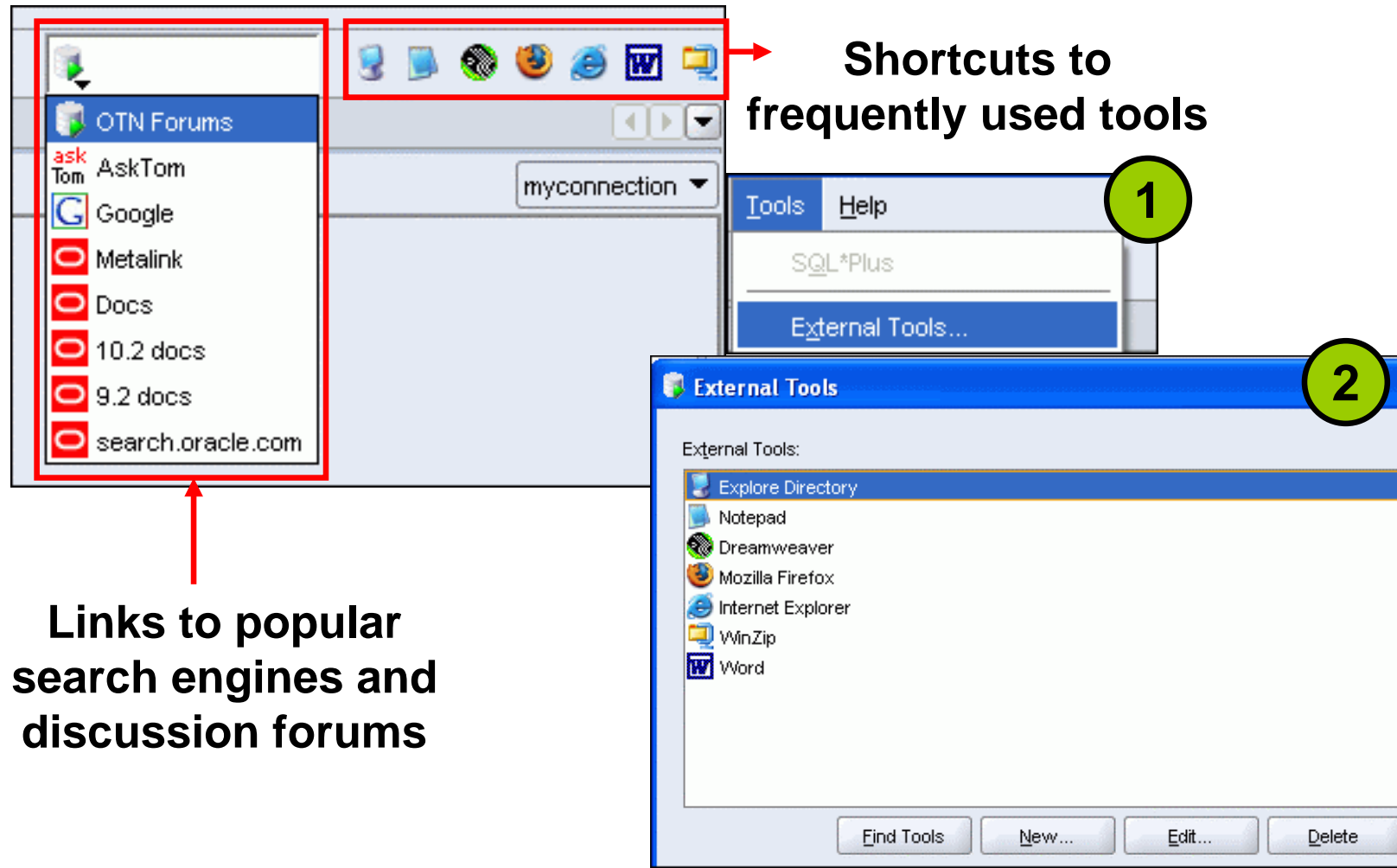
Setting Preferences

- Customize the SQL Developer interface and environment.

- In the Tools menu, select Preferences.
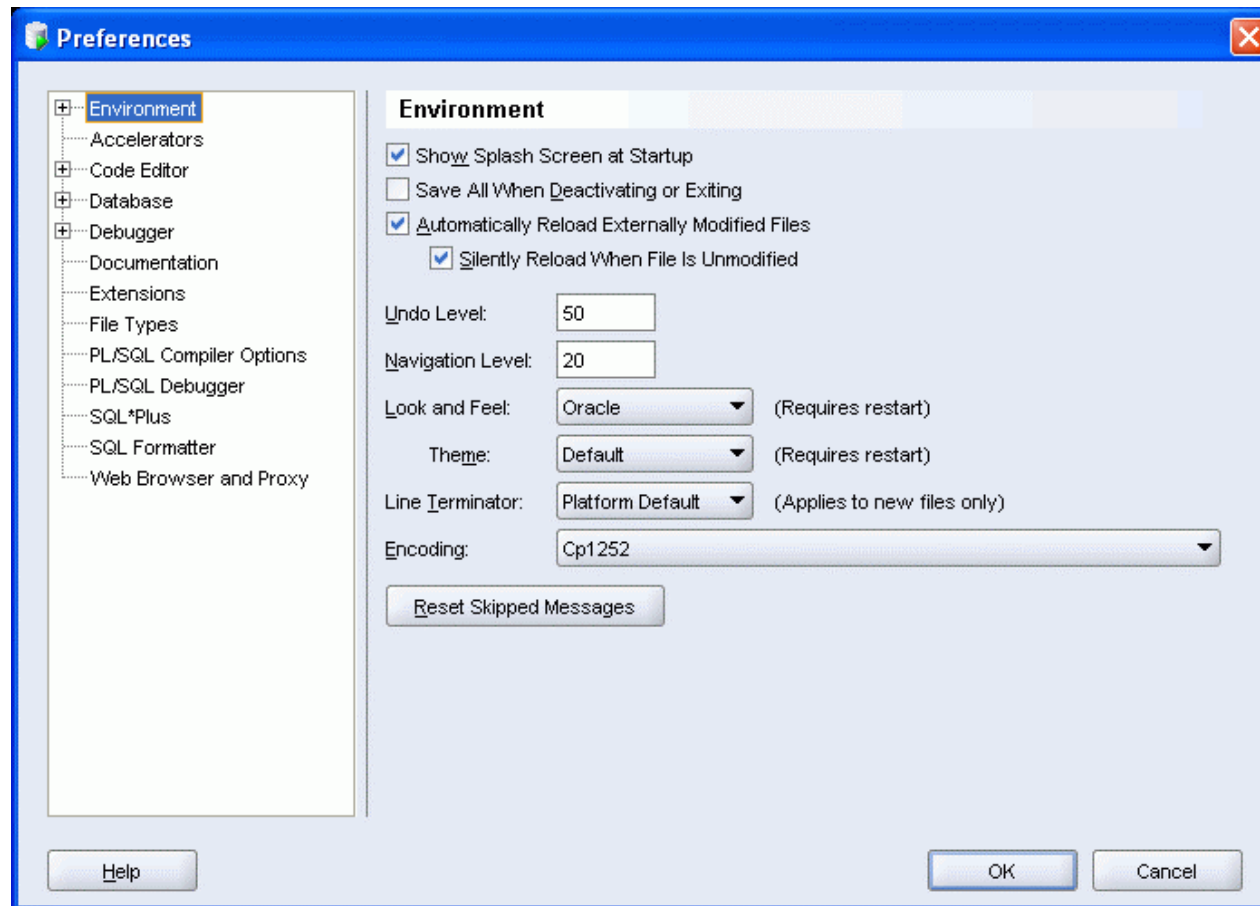
Resetting the SQL Developer Layout

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