



Using SQL Developer

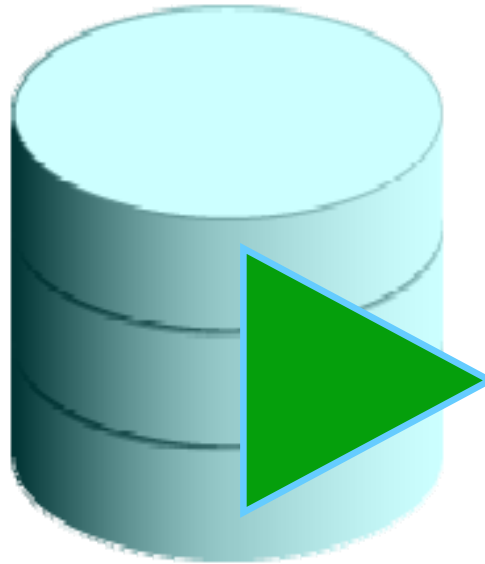
Objectives

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
- Execute SQL statements and SQL scripts
- Create and save reports

What Is Oracle SQL Developer?

- Oracle SQL Developer is a free 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.

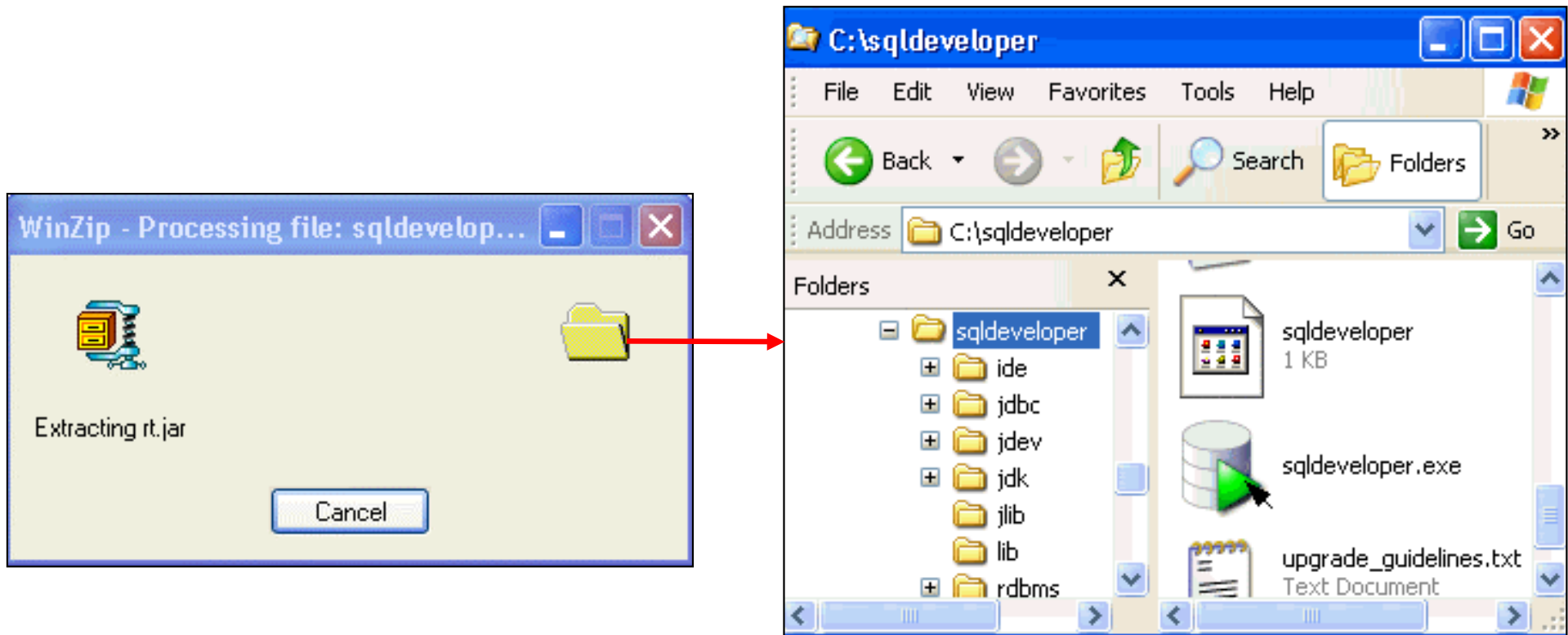


Key Features

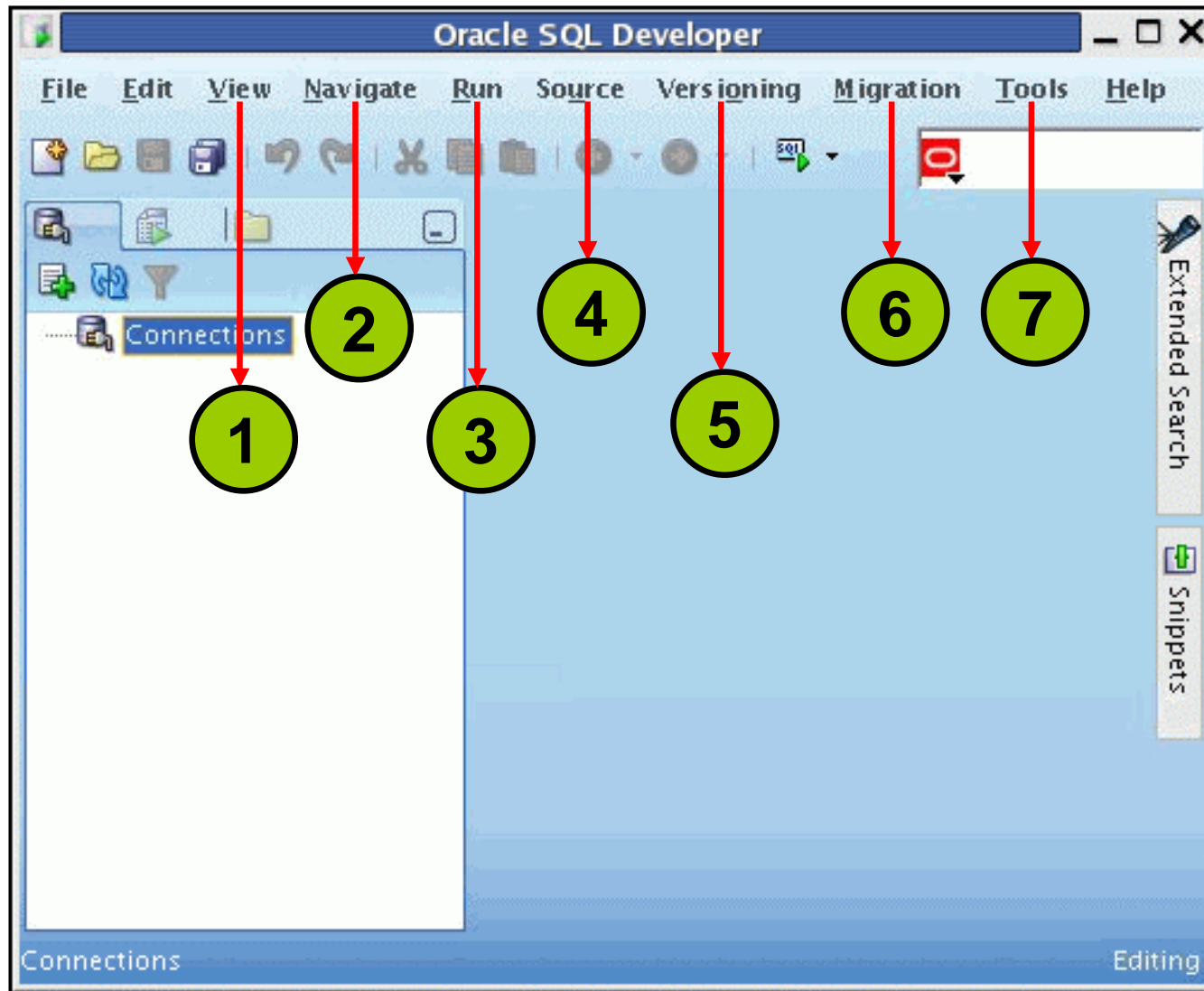
- Was developed in Java
- Supports Windows, Linux, and Mac OS X platforms
- Uses the JDBC Thin driver for default connectivity
- Does not require an installer
- Connects to any Oracle Database version 9.2.0.1 and later
- Is bundled with JRE 1.5

Installing SQL Developer

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



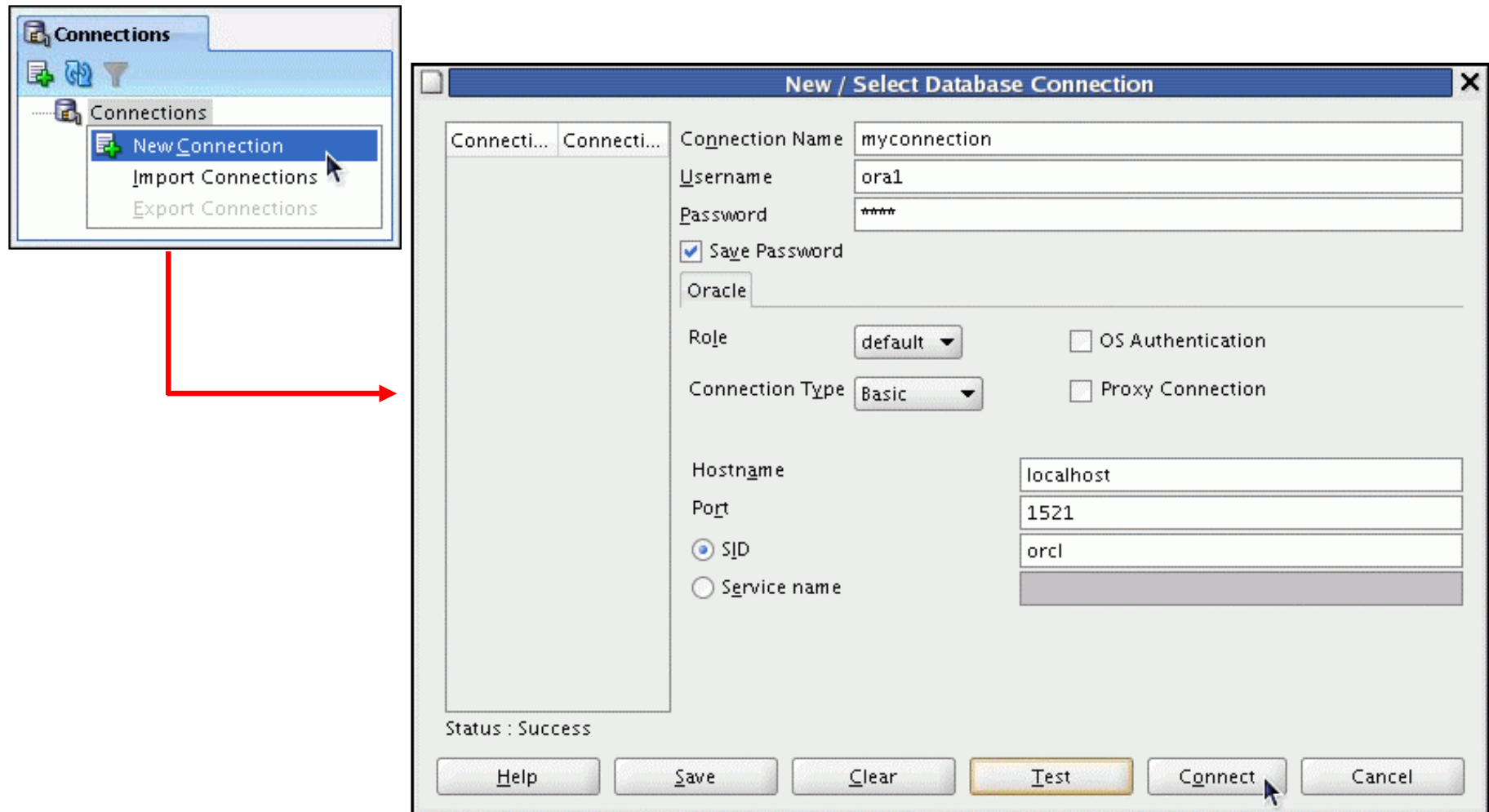
Menus for SQL Developer



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 any connections defined in the `tnsnames.ora` file on your system.
- You can export connections to an XML file.
- Each additional database connection created is listed in the connections navigator hierarchy.

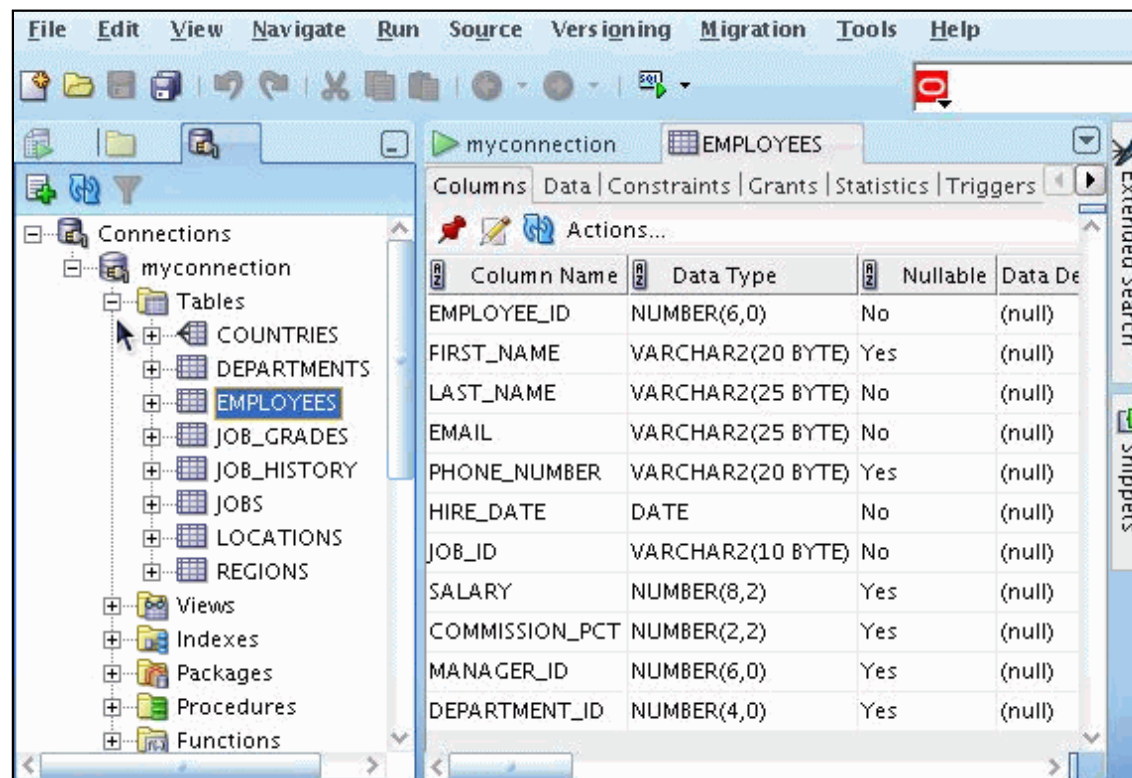
Creating a Database Connection



Browsing Database Objects

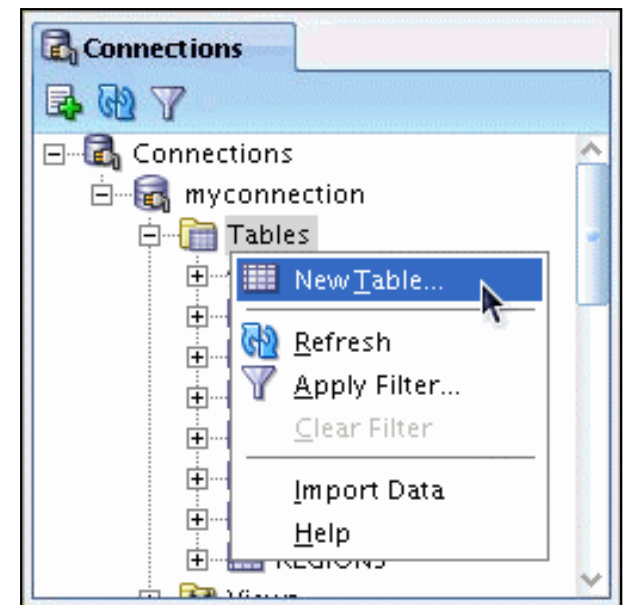
Use the Database Navigator to:

- Browse through many objects in a database schema
- Do a quick review of the definitions of objects



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
- You can edit the objects by using an edit dialog box or one of the many context-sensitive menus.
- You can view the DDL for adjustments such as creating a new object or editing an existing schema object.



Creating a New Table: Example

Create Table

Schema: ☒ Advanced

Name:

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

Columns:

- DEPARTMENT_ID
- DEPARTMENT_NAME
- LOCATION_ID
- MANAGER_ID
- COLUMN1**

Column Properties

Name:

Datatype: ☒ Simple ☐ Complex

Type:

Size:

Units:

Default:

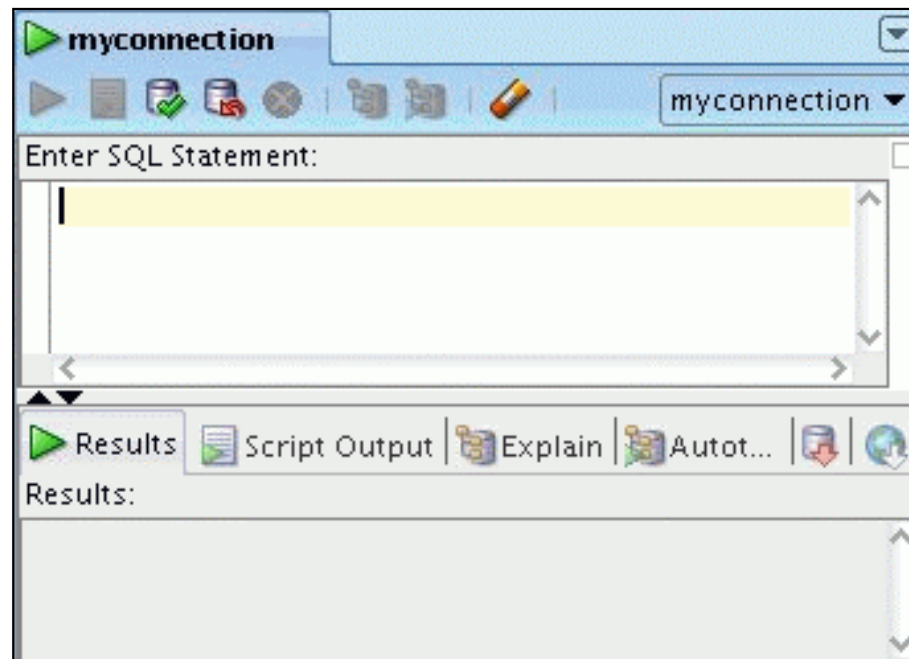
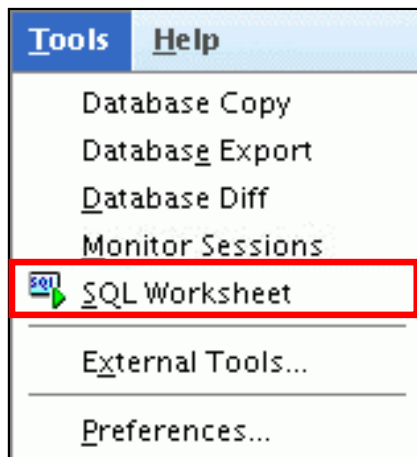
☐ Cannot be NULL

Comment:

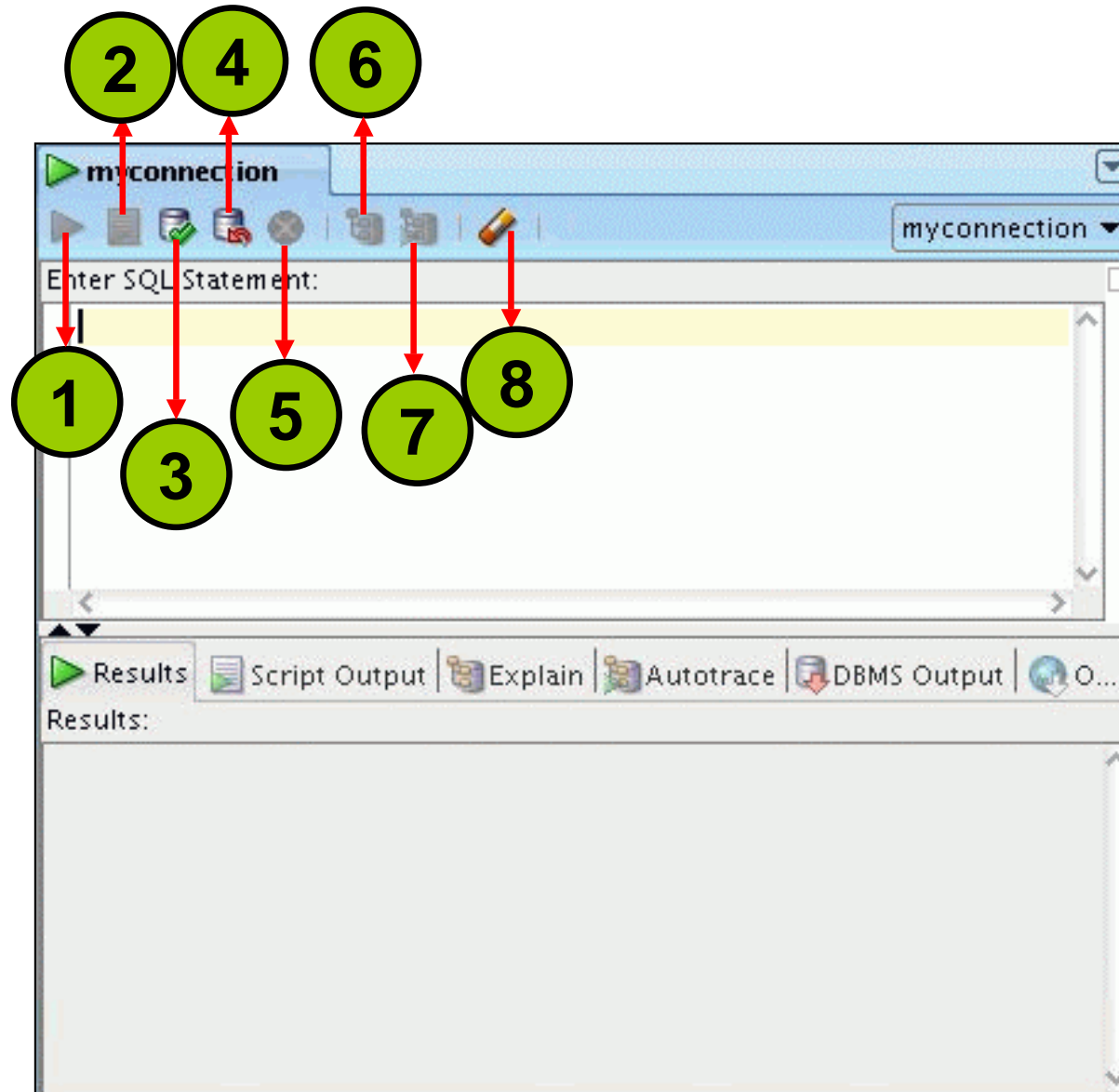
Help OK Cancel

Using SQL Worksheet

- Use 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.

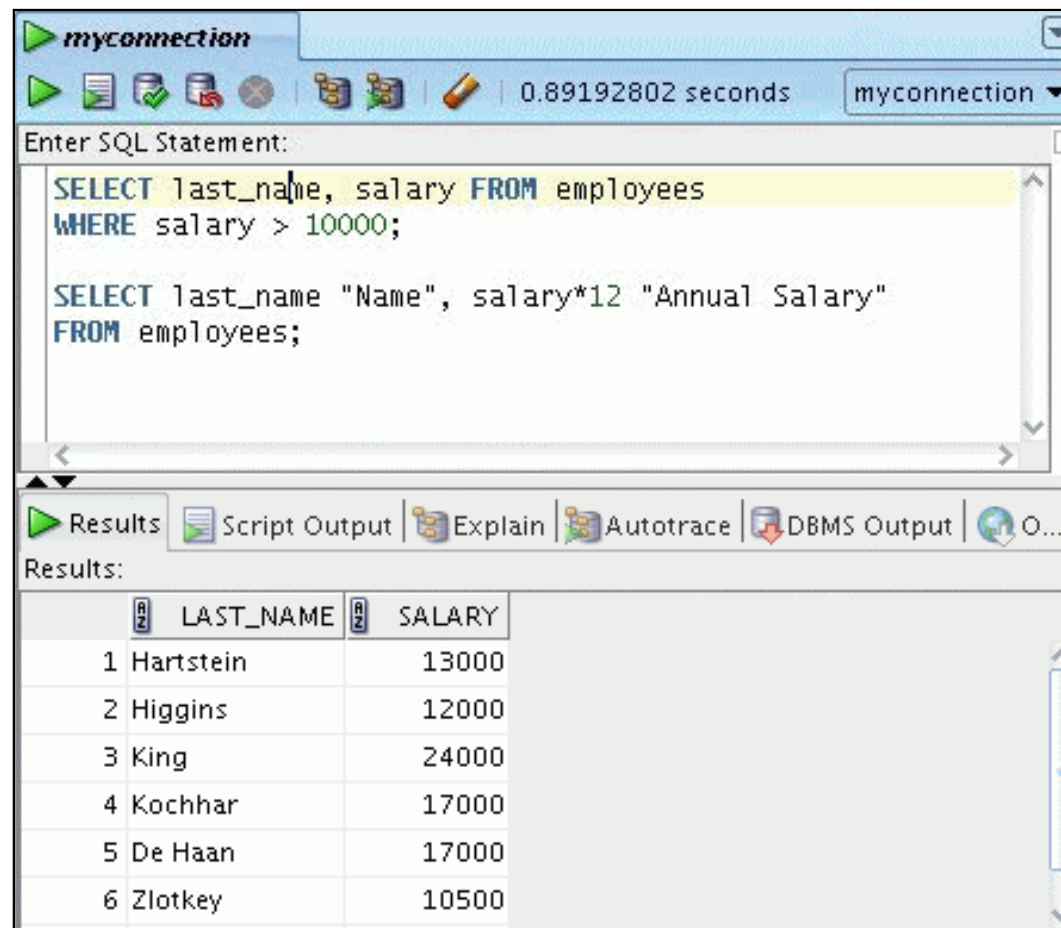


Using SQL Worksheet

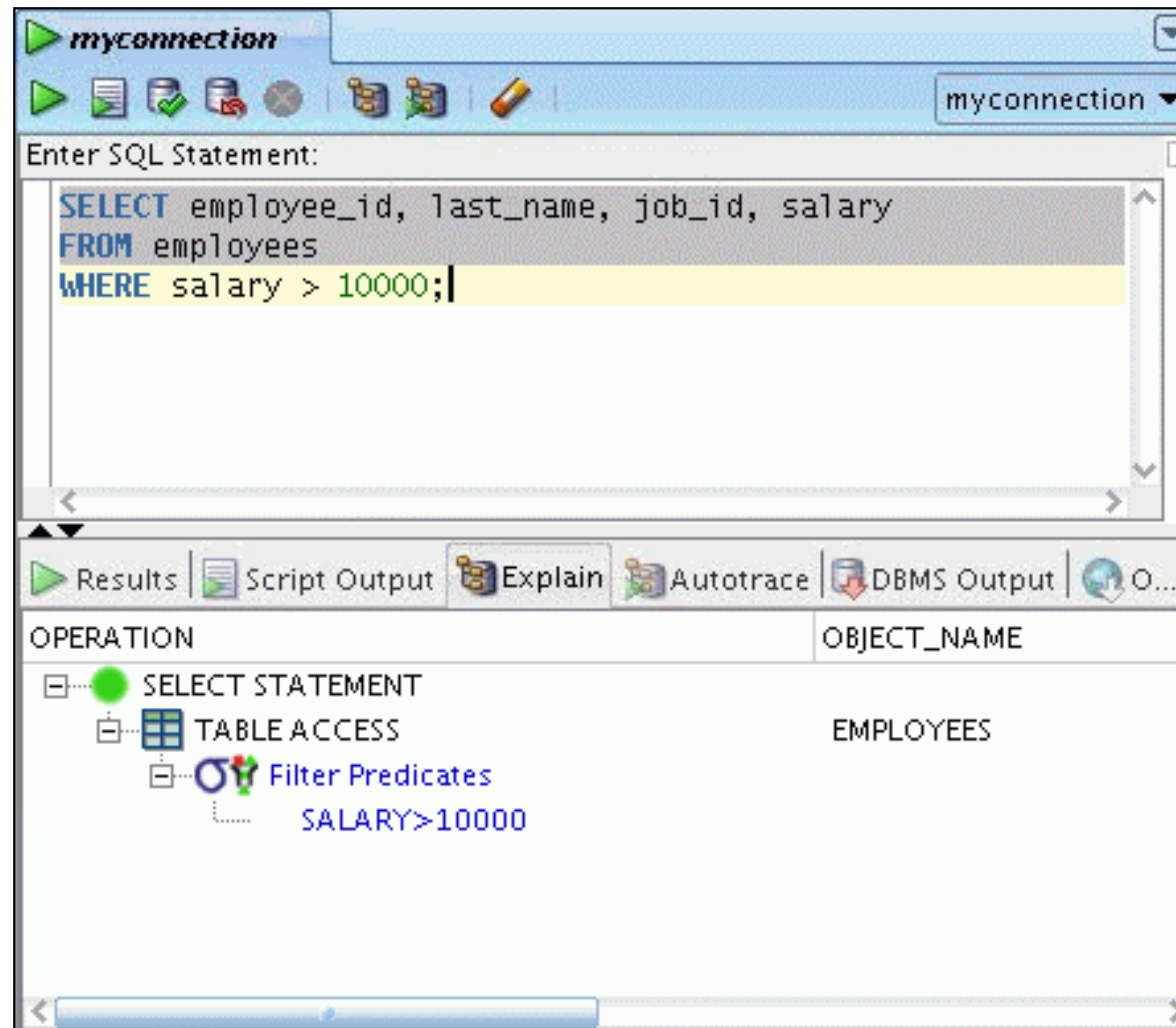


Executing SQL Statements

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



Viewing the Execution Plan



The screenshot shows the 'myconnection' SQL client interface. The top toolbar includes icons for running, saving, and other database operations. The main text area contains the following SQL statement:

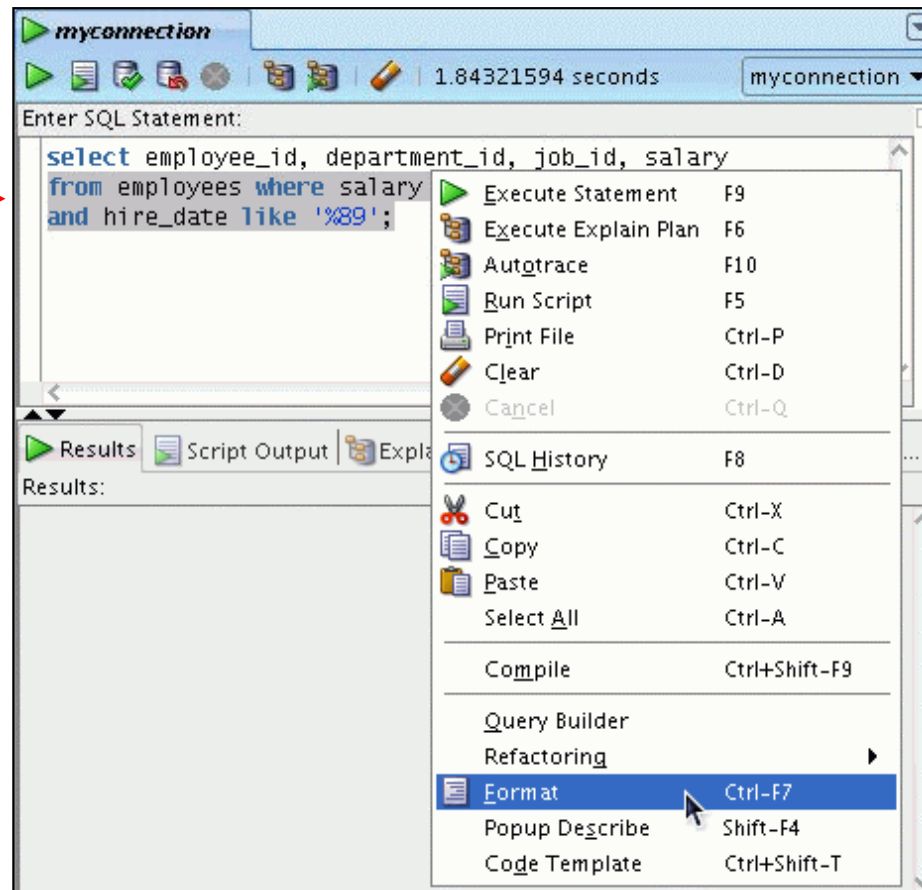
```
SELECT employee_id, last_name, job_id, salary
FROM employees
WHERE salary > 10000;
```

Below the SQL editor, a tabbed interface shows the 'Explain' tab selected. The execution plan is displayed in a table with two columns: 'OPERATION' and 'OBJECT_NAME'.

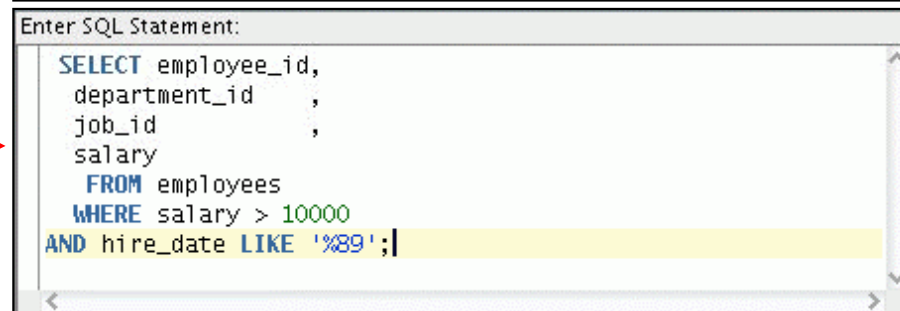
| OPERATION | OBJECT_NAME |
|-------------------|-------------|
| SELECT STATEMENT | |
| TABLE ACCESS | EMPLOYEES |
| Filter Predicates | |
| SALARY>10000 | |

Formatting the SQL Code

**Before
Formatting**

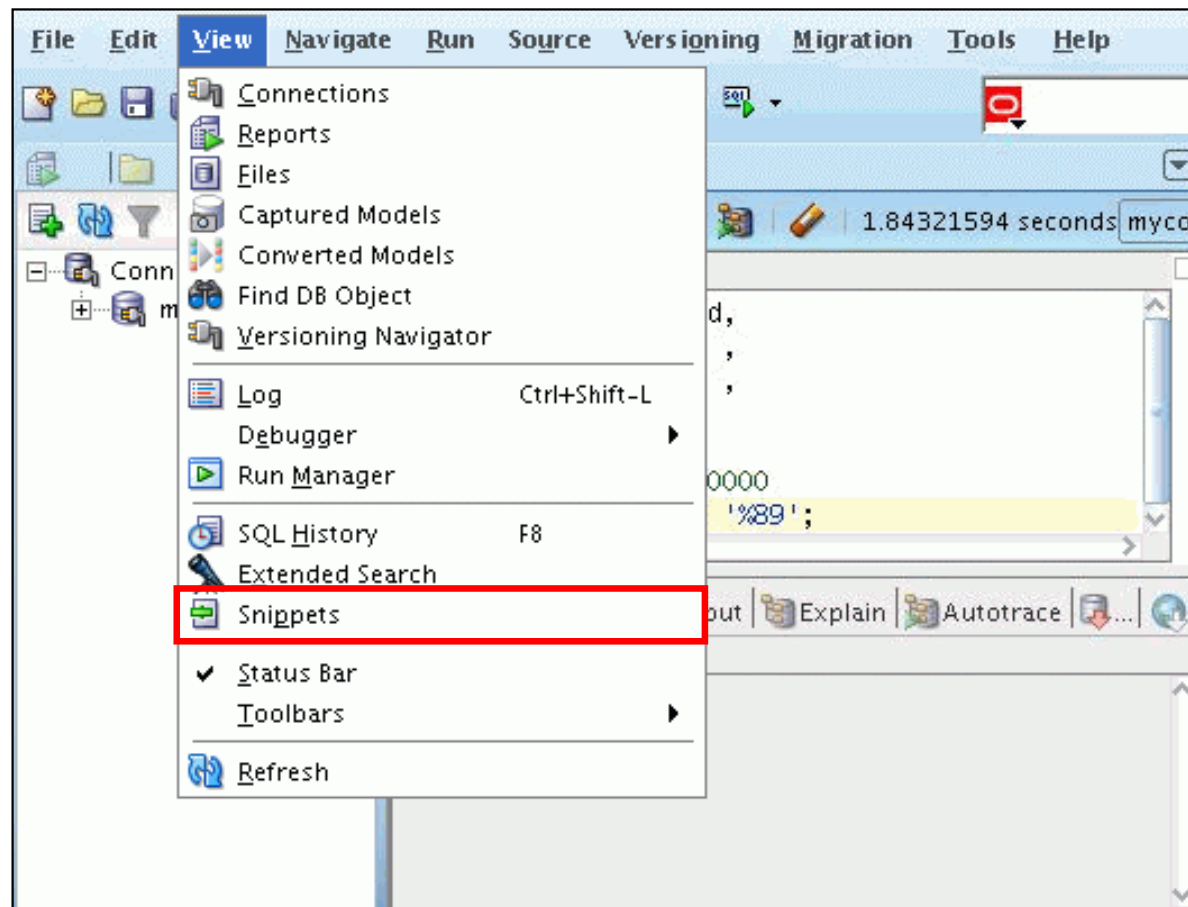


**After
Formatting**



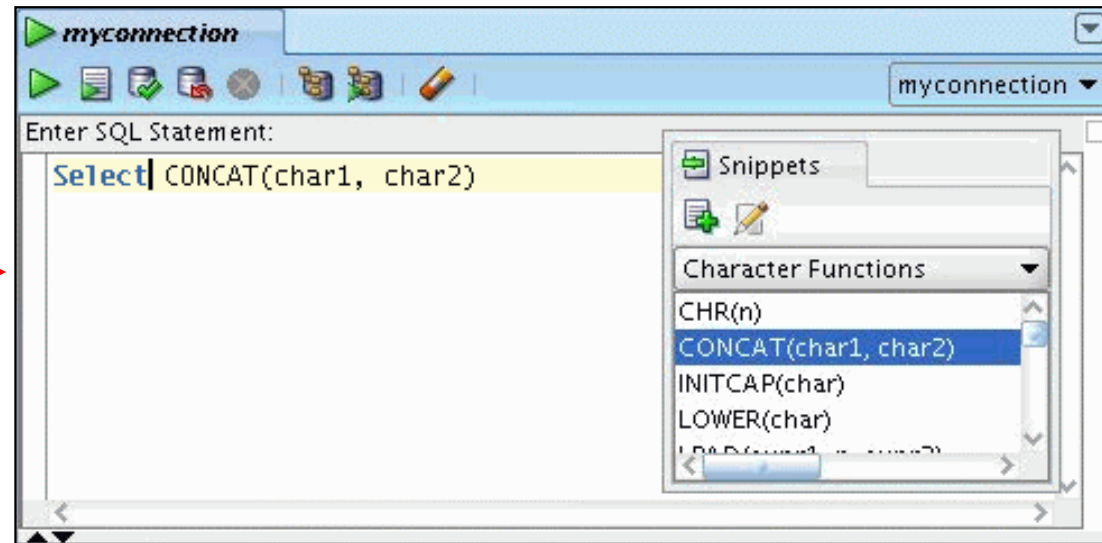
Using Snippets

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

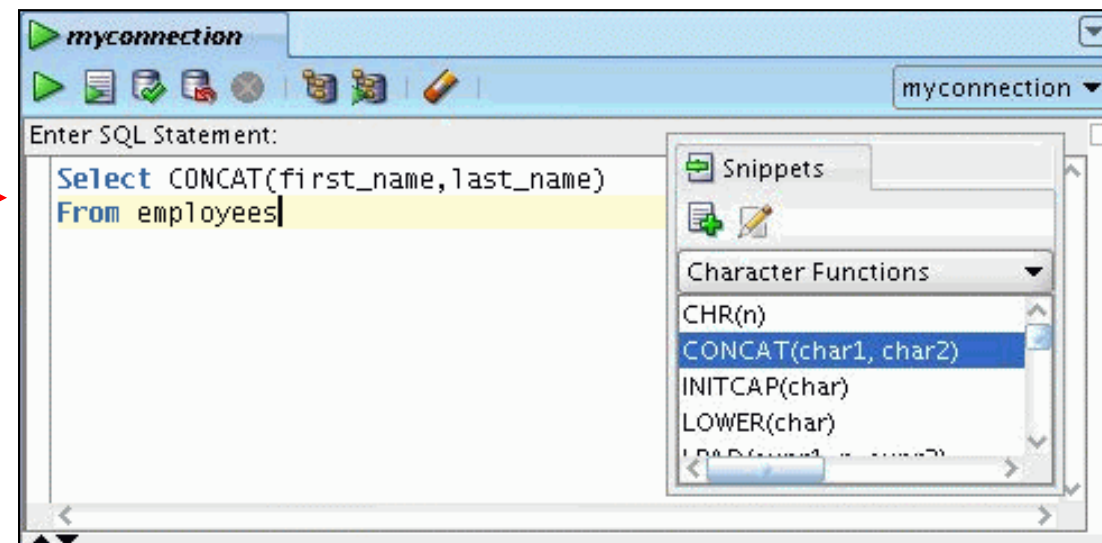


Using Snippets: Example

Inserting a snippet

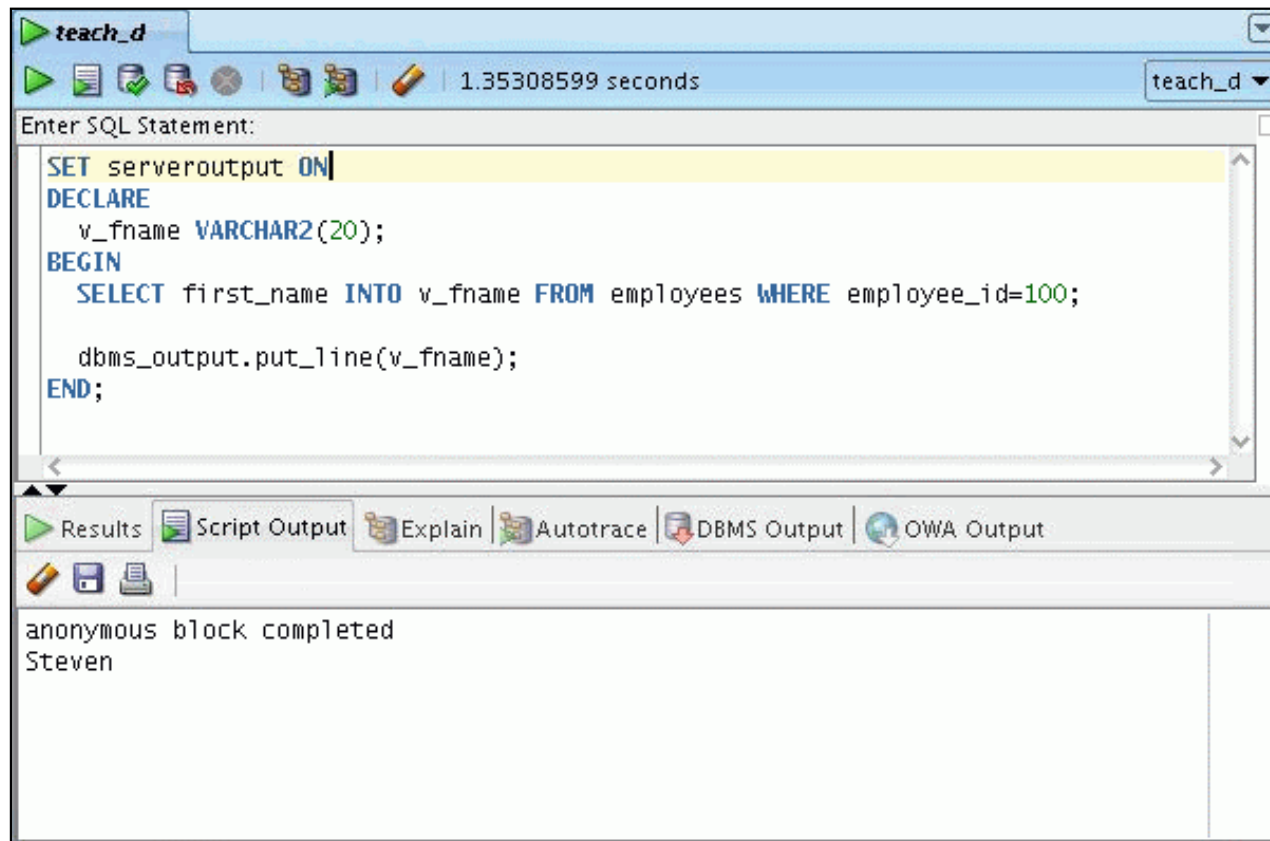


Editing the snippet



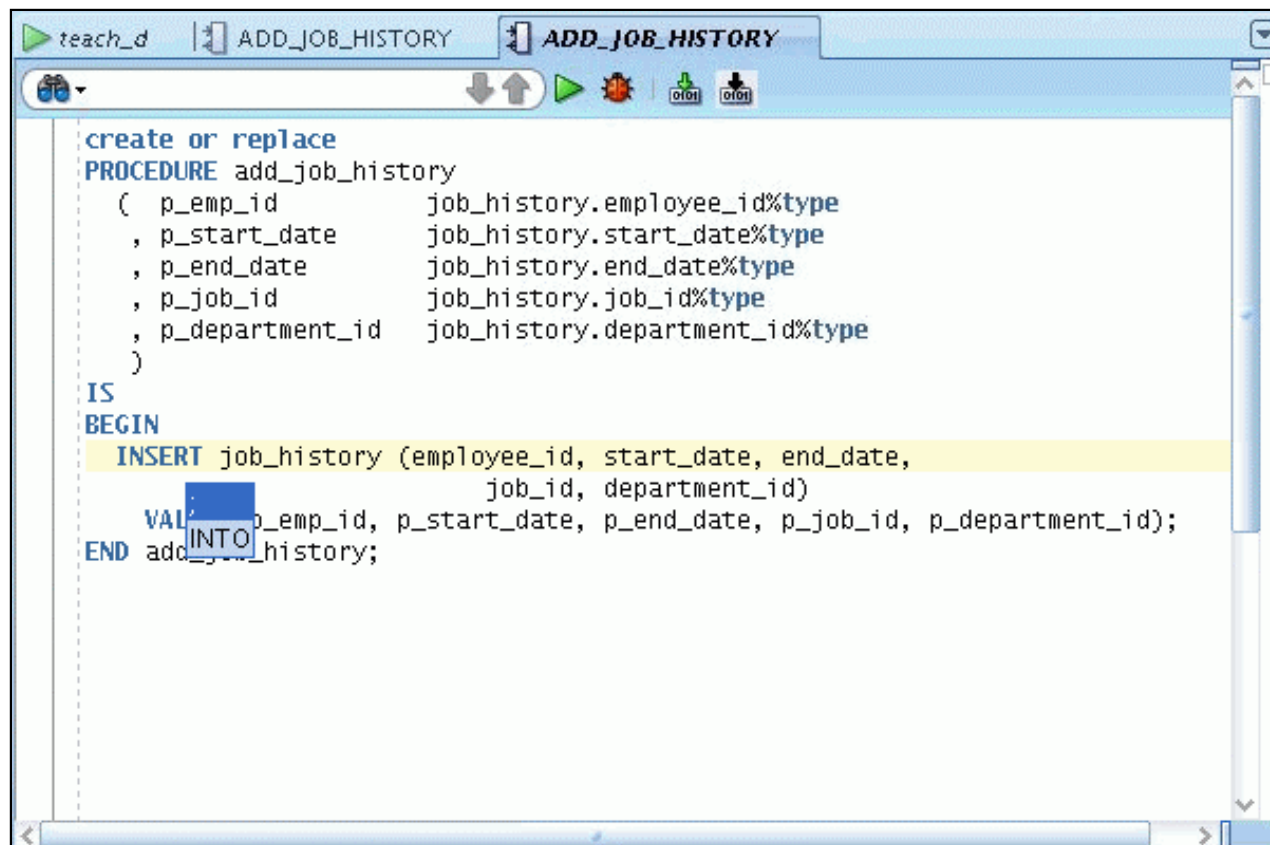
Creating an Anonymous Block

Create an anonymous block and display the output of DBMS_OUTPUT package statements.



Editing the PL/SQL Code

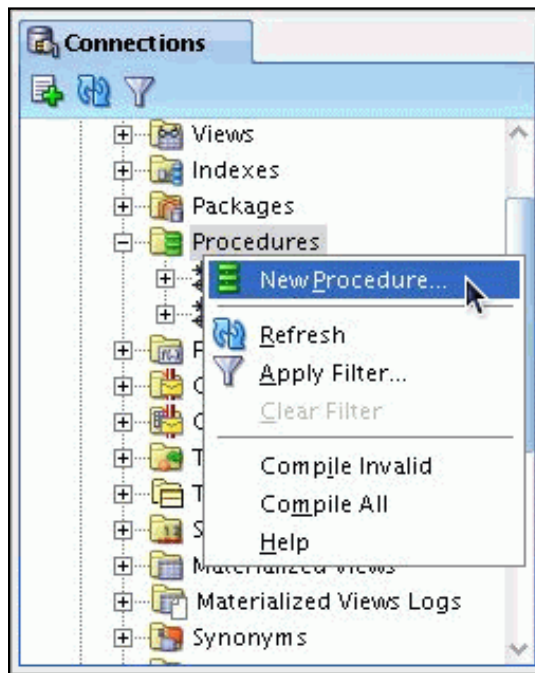
Use the full-featured editor for PL/SQL program units:



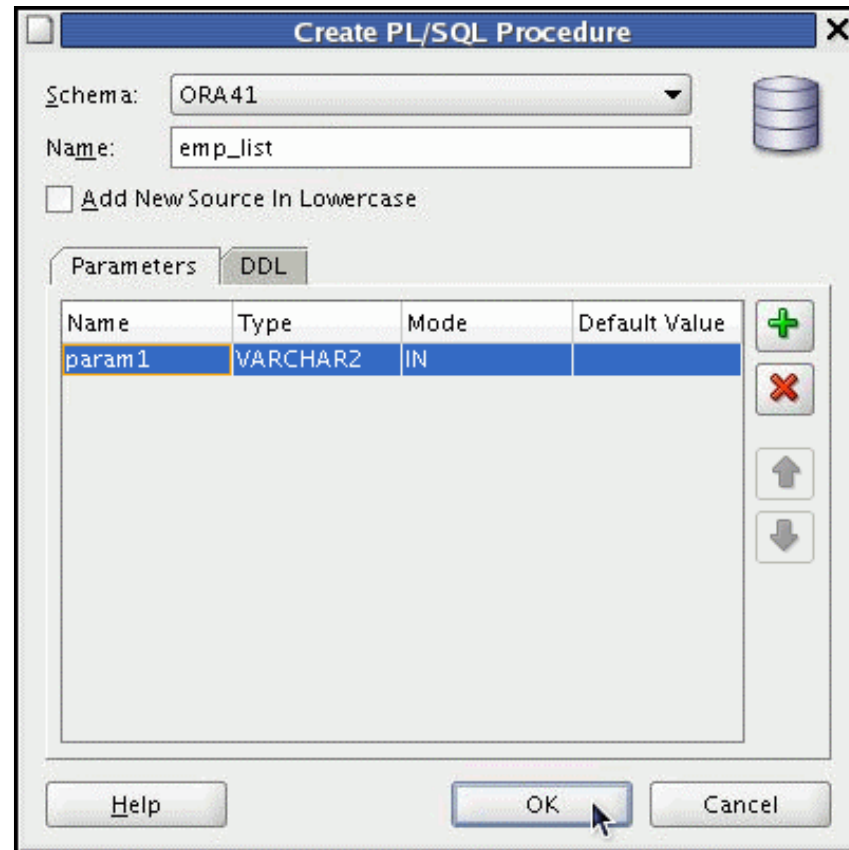
The screenshot shows the Oracle SQL Developer interface. The top toolbar includes icons for running, saving, and other actions. The main editor window displays the following PL/SQL code:

```
create or replace
PROCEDURE add_job_history
( p_emp_id          job_history.employee_id%type
, p_start_date      job_history.start_date%type
, p_end_date        job_history.end_date%type
, p_job_id          job_history.job_id%type
, p_department_id   job_history.department_id%type
)
IS
BEGIN
  INSERT job_history (employee_id, start_date, end_date,
                     job_id, department_id)
VALUES (p_emp_id, p_start_date, p_end_date, p_job_id, p_department_id);
END add_job_history;
```

Creating a PL/SQL Procedure



1



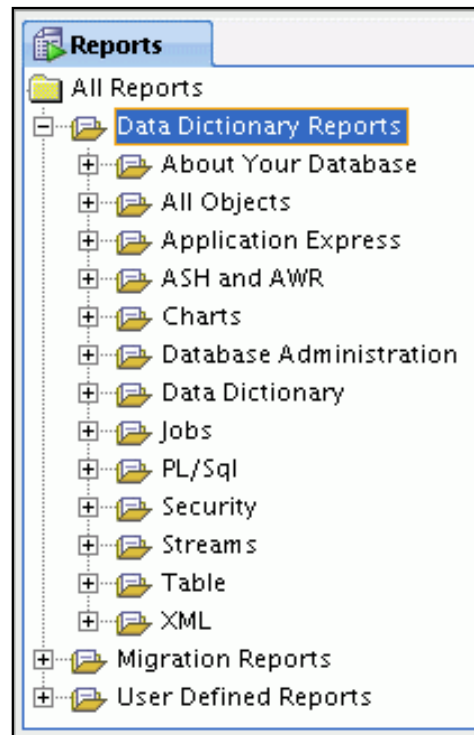
2

Using SQL*Plus

- SQL Worksheet does not support all SQL*Plus statements.
- SQL*Plus statements that are not supported by SQL Worksheet are:
 - append
 - archive
 - attribute
 - break
 - change
 - clear

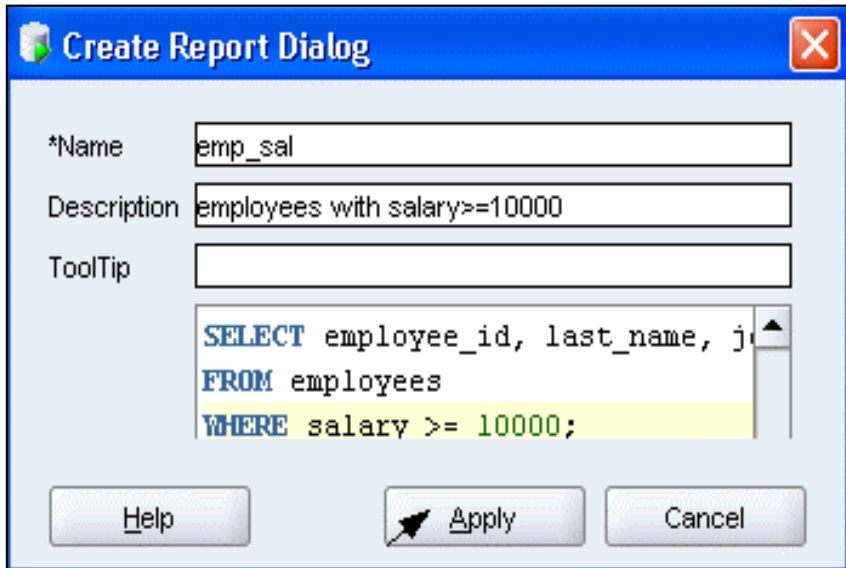
Database Reporting

- SQL Developer provides you with a number of predefined reports about your database and objects.
- The Reports are organized into categories.
- You can create your own customized reports too.



Creating a User-Defined Report

Create and save user-defined reports for repeated use.

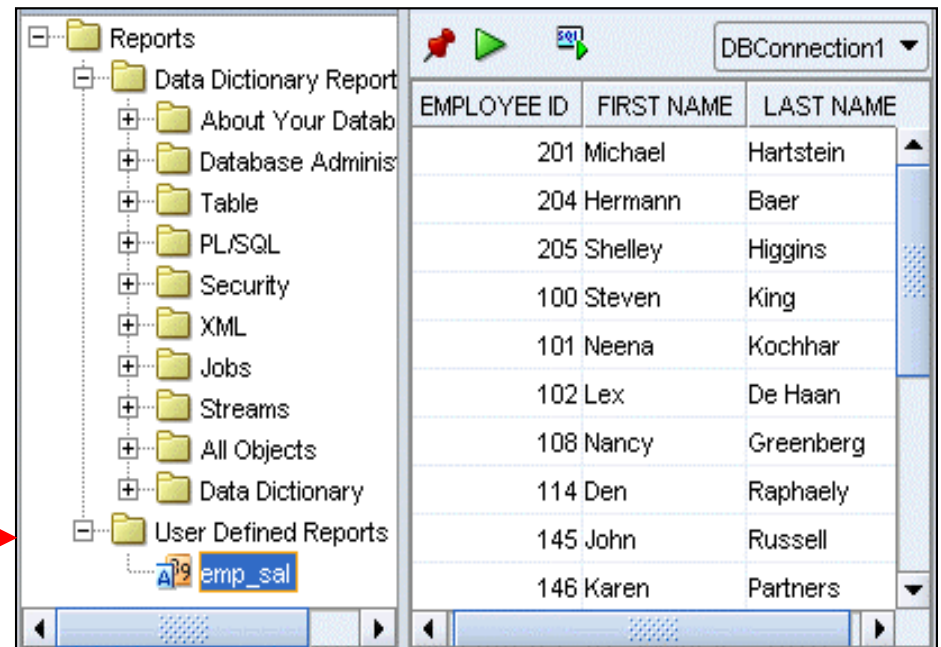


The 'Create Report Dialog' box is shown with the following fields:

- *Name: emp_sal
- Description: employees with salary >= 10000
- ToolTip: (empty)
- SQL Statement:

```
SELECT employee_id, last_name, job_id
FROM employees
WHERE salary >= 10000;
```

Buttons at the bottom: Help, Apply, Cancel.



The Oracle Reports interface shows a tree view on the left with 'User Defined Reports' expanded, listing 'emp_sal'. On the right, a table displays the report output for 'DBConnection1'.

| EMPLOYEE ID | FIRST NAME | LAST NAME |
|-------------|------------|-----------|
| 201 | Michael | Hartstein |
| 204 | Hermann | Baer |
| 205 | Shelley | Higgins |
| 100 | Steven | King |
| 101 | Neena | Kochhar |
| 102 | Lex | De Haan |
| 108 | Nancy | Greenberg |
| 114 | Den | Raphaely |
| 145 | John | Russell |
| 146 | Karen | Partners |

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