

Chapter 2

How to use Oracle SQL Developer and other tools

Objectives

Applied

- Start or stop the Oracle database server and listener.
- Use SQL*Plus to run a SQL statement.
- Use Oracle SQL Developer to do any of the following:
 - Create a database connection
 - Export or import database connections
 - Navigate through the objects of a database
 - View the column definitions for a table
 - View the data for a table
 - Edit the column definitions for a table
- Use Oracle SQL Developer to enter, run, open, and save SQL statements and scripts.
- Use the SQL Reference manual to look up information about SQL statements.

Objectives (continued)

Knowledge

- Briefly describe the function of each of these products:

Database Home Page

SQL*Plus

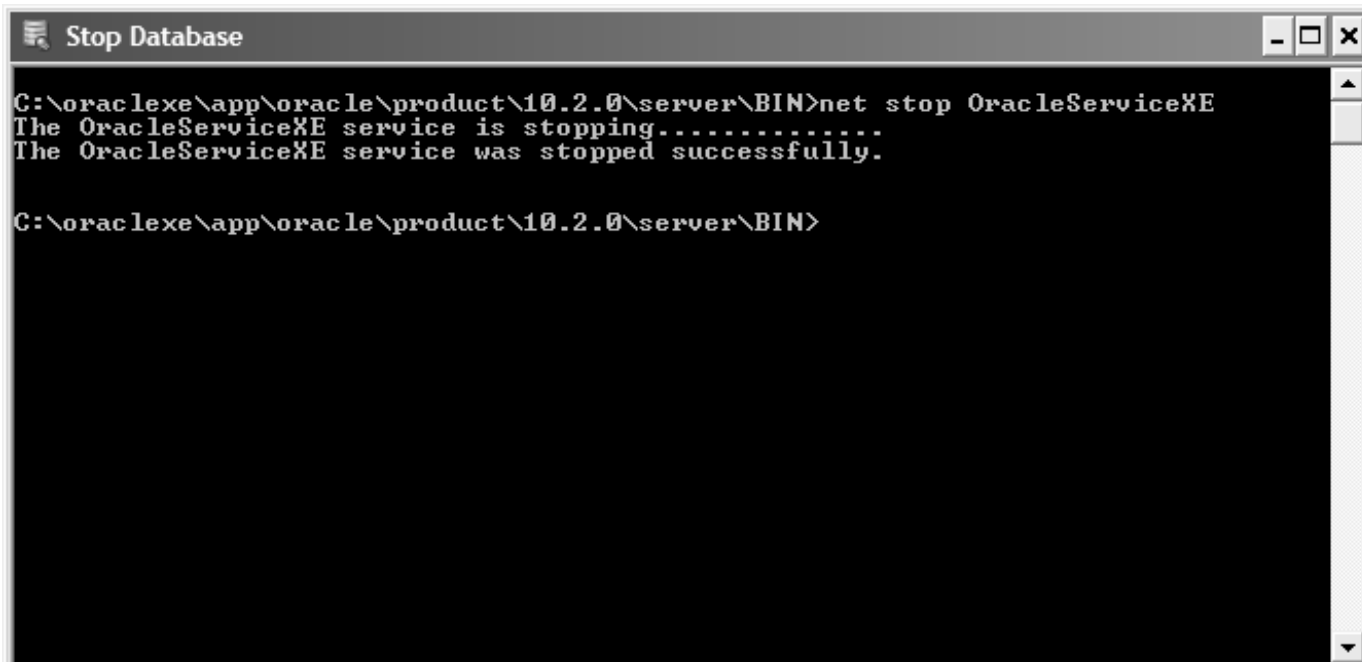
Oracle SQL Developer

SQL Reference manual

How to stop the database

- Start → All Programs →
Oracle Database 10g Express Edition →
Stop Database

The DOS window when the database is stopped



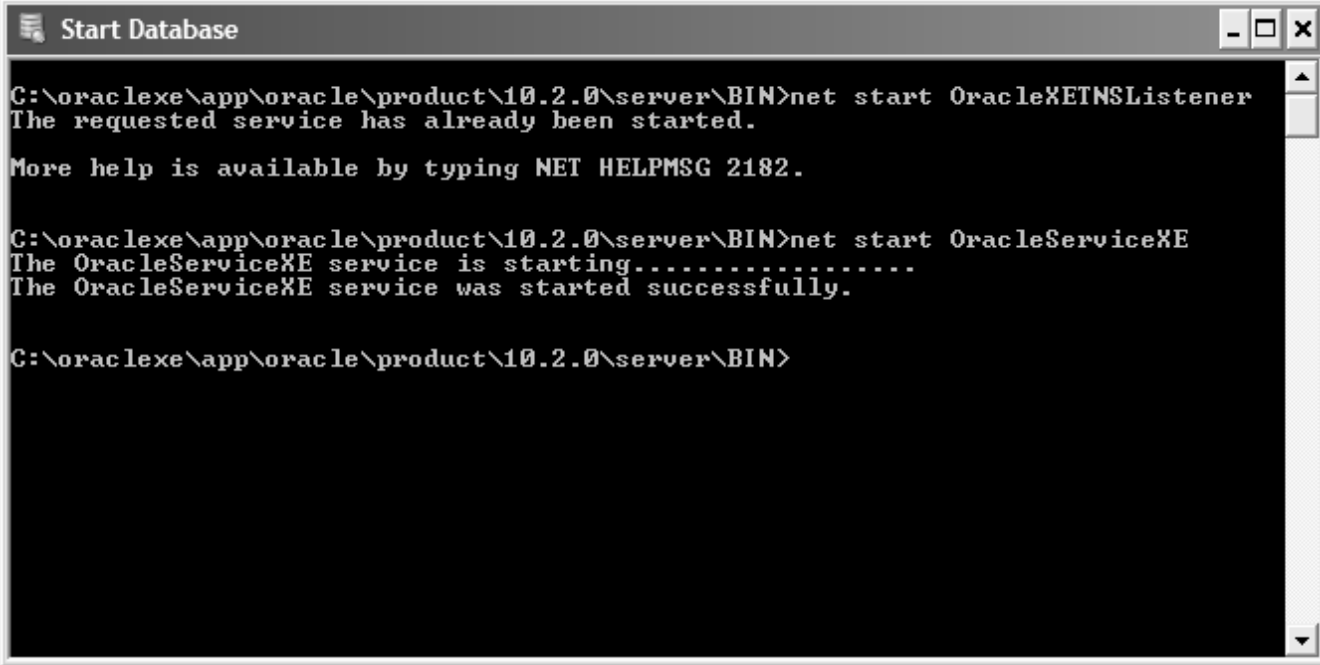
```
C:\oraclexe\app\oracle\product\10.2.0\server\BIN>net stop OracleServiceXE
The OracleServiceXE service is stopping.....
The OracleServiceXE service was stopped successfully.

C:\oraclexe\app\oracle\product\10.2.0\server\BIN>
```

How to start the database

- Start → All Programs → Oracle Database 10g Express Edition → Start Database

The DOS window when the database is started



```
C:\oraclexe\app\oracle\product\10.2.0\server\BIN>net start OracleXEtnsListener
The requested service has already been started.

More help is available by typing NET HELPMSG 2182.

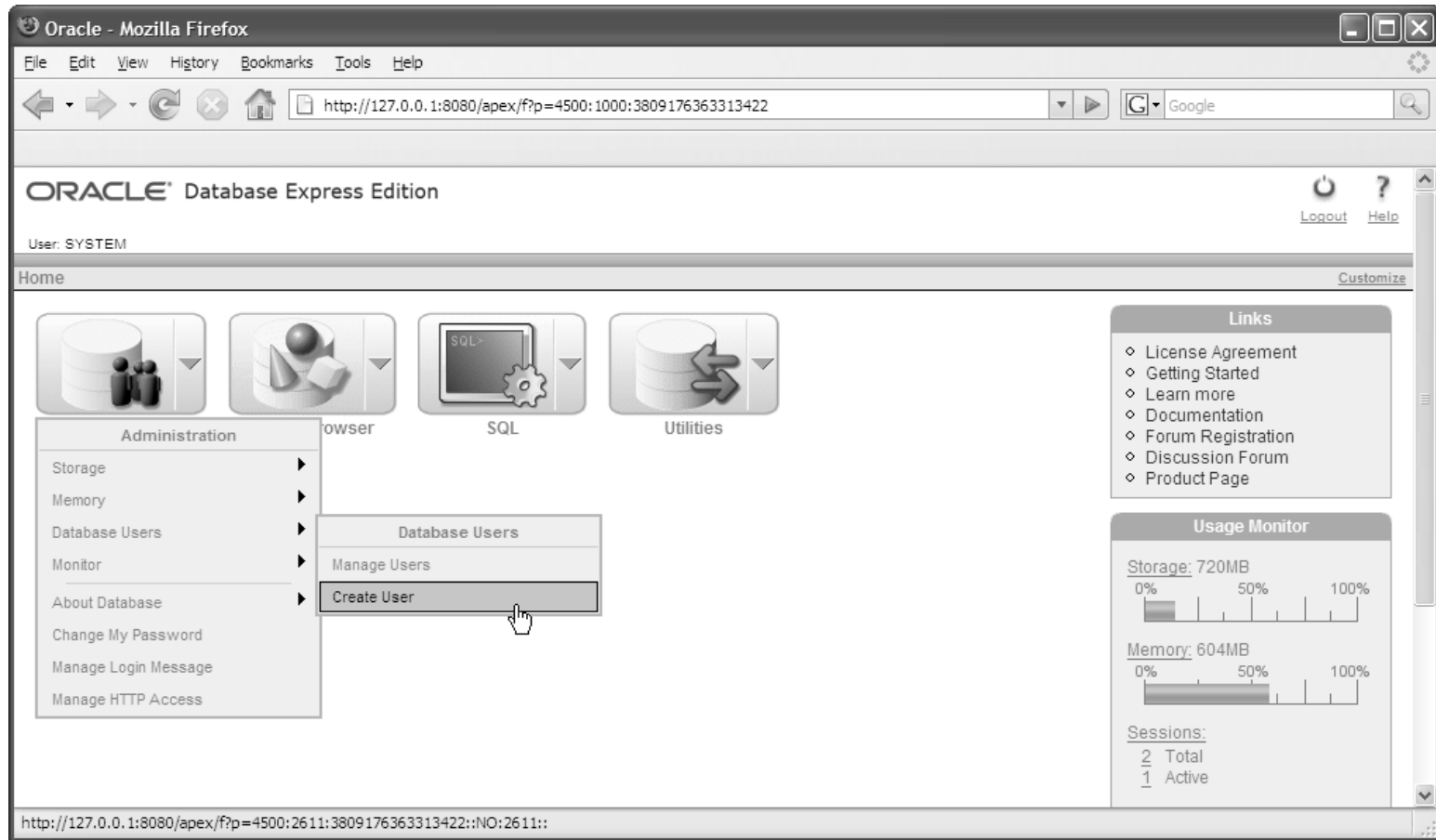
C:\oraclexe\app\oracle\product\10.2.0\server\BIN>net start OracleServiceXE
The OracleServiceXE service is starting.....
The OracleServiceXE service was started successfully.

C:\oraclexe\app\oracle\product\10.2.0\server\BIN>
```

Terms to know

- Database service (database server, database engine)
- Database listener

The Database Home Page



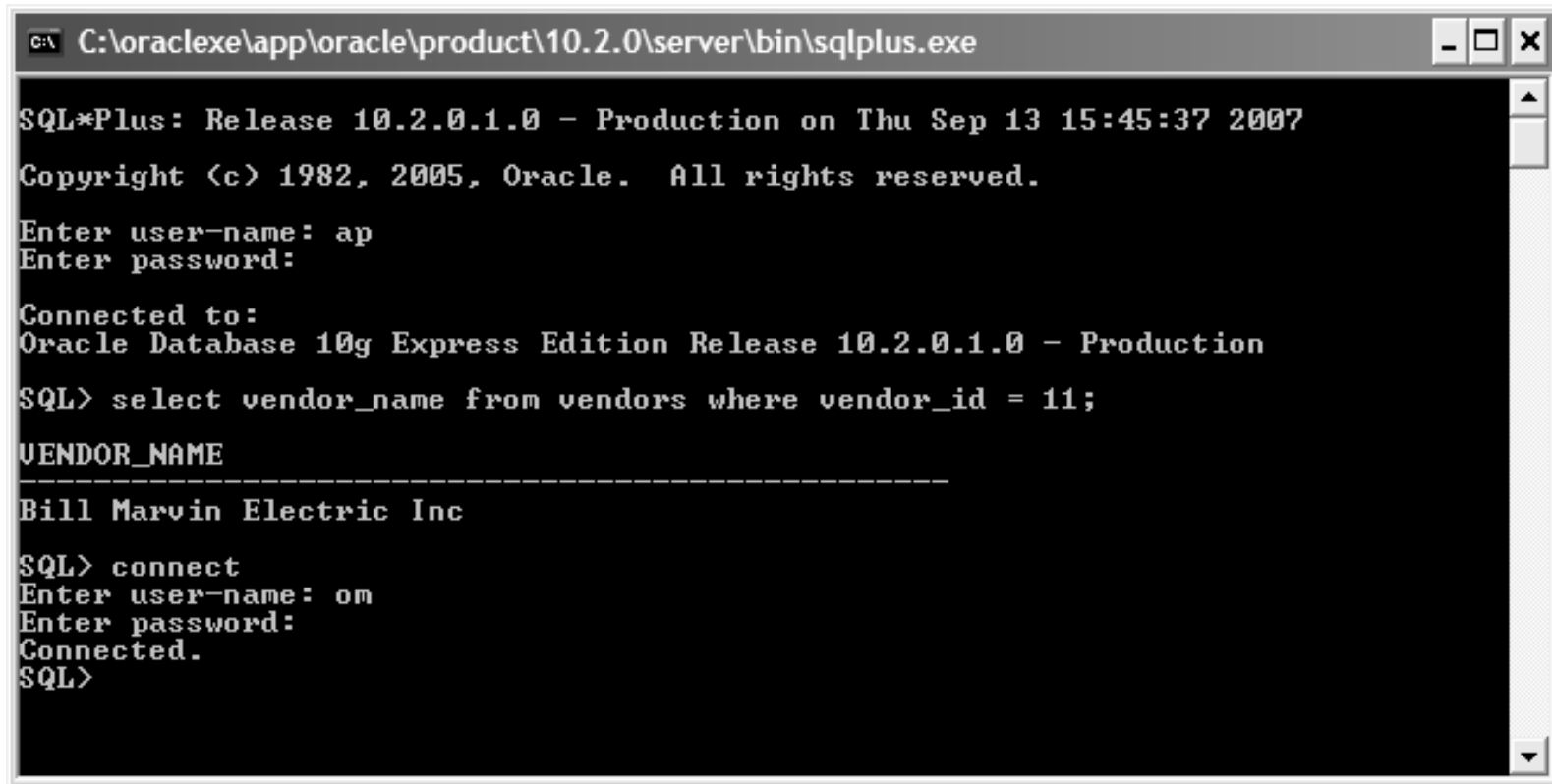
How to start the Database Home Page from the Windows Start menu

- All Programs →
Oracle Database 10g Express Edition →
Go To Database Home Page.
- Use the Database Login page to log in.

How to use the Database Home Page to create a user for a database

- Log in as the system user.
- Administration →
Database Users →
Create User.
- Use the resulting web page to create the user.

The SQL*Plus tool



```
C:\oracle\app\oracle\product\10.2.0\server\bin\sqlplus.exe

SQL*Plus: Release 10.2.0.1.0 - Production on Thu Sep 13 15:45:37 2007
Copyright (c) 1982, 2005, Oracle. All rights reserved.

Enter user-name: ap
Enter password:

Connected to:
Oracle Database 10g Express Edition Release 10.2.0.1.0 - Production

SQL> select vendor_name from vendors where vendor_id = 11;

VENDOR_NAME
-----
Bill Marvin Electric Inc

SQL> connect
Enter user-name: om
Enter password:
Connected.
SQL>
```

How to start SQL*Plus

- Select the Run command from the Start menu.
- Enter “sqlplus”, and click the OK button.

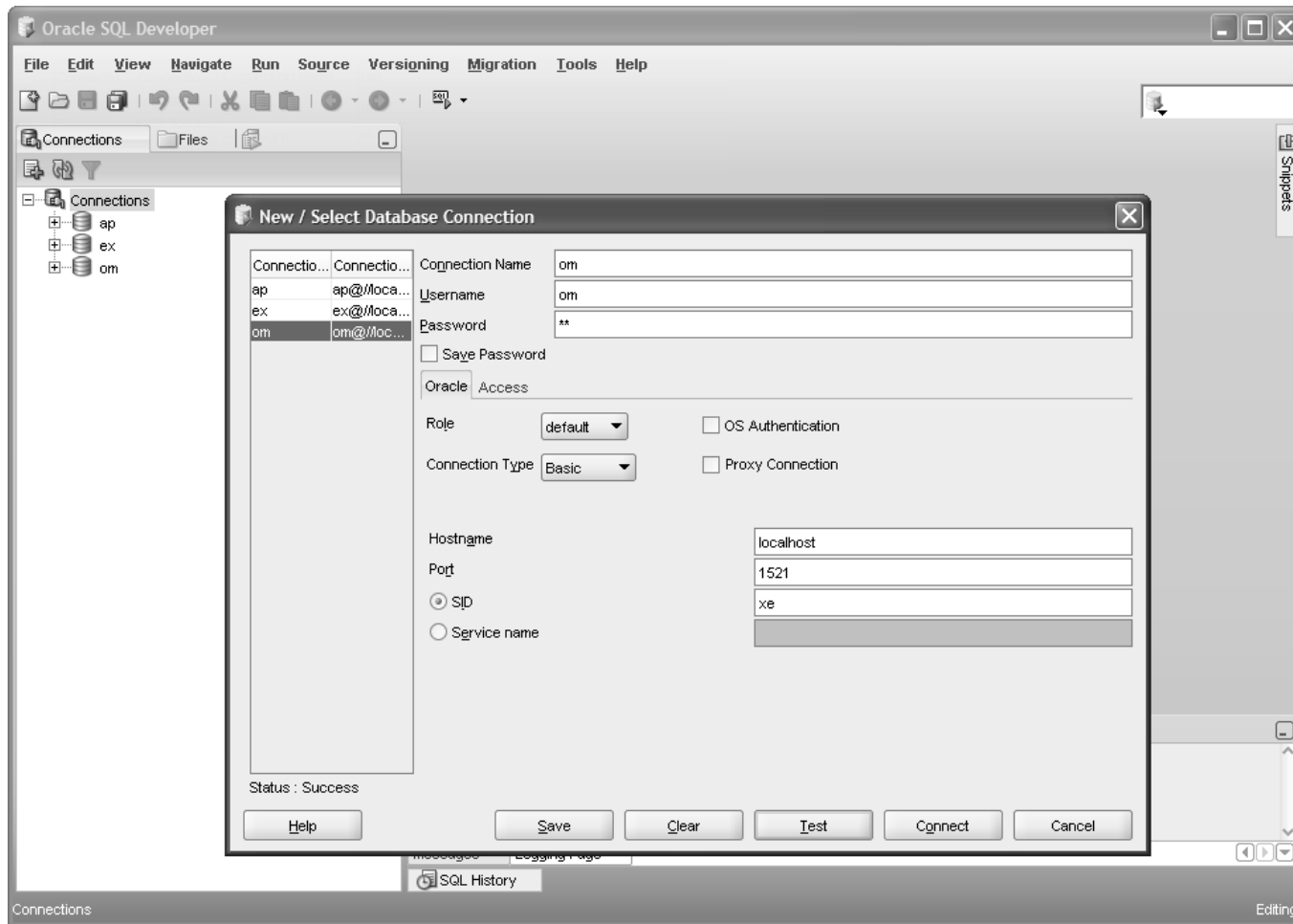
How to connect to a database with SQL*Plus

- Enter the username and password.

How to run a SQL statement with SQL*Plus

- Type the statement.
- Type a semicolon, and press the Enter key.

The SQL Developer dialog box for creating database connections



How to create a database connection

- Right-click on the Connections node.
- Select the New Connection command.
- Enter a connection name, username, and password.
- Click the Test button to test the connection.
- Click the Save button to save the connection.

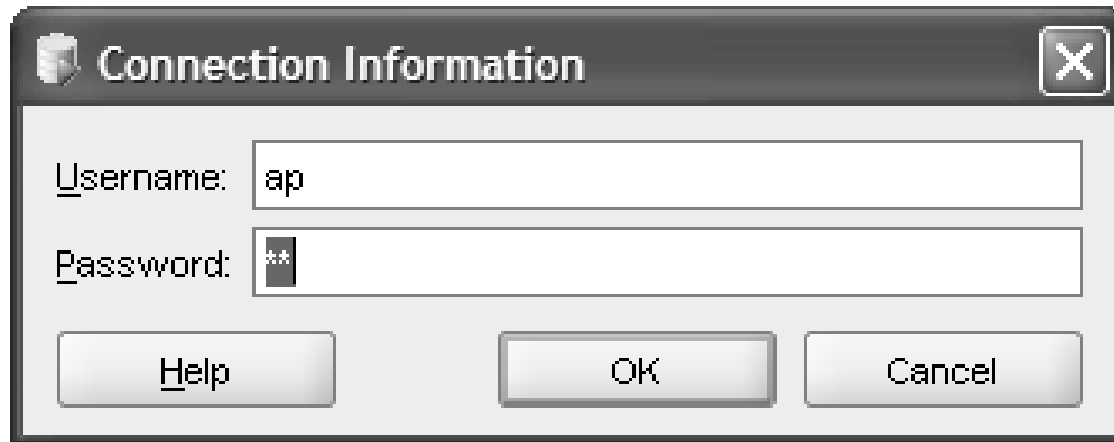
How to export database connections

- Right-click the Connections node.
- Select the Export Connections command.
- Select the connections that you want to export.
- Specify the path and filename for the XML file for the connections.

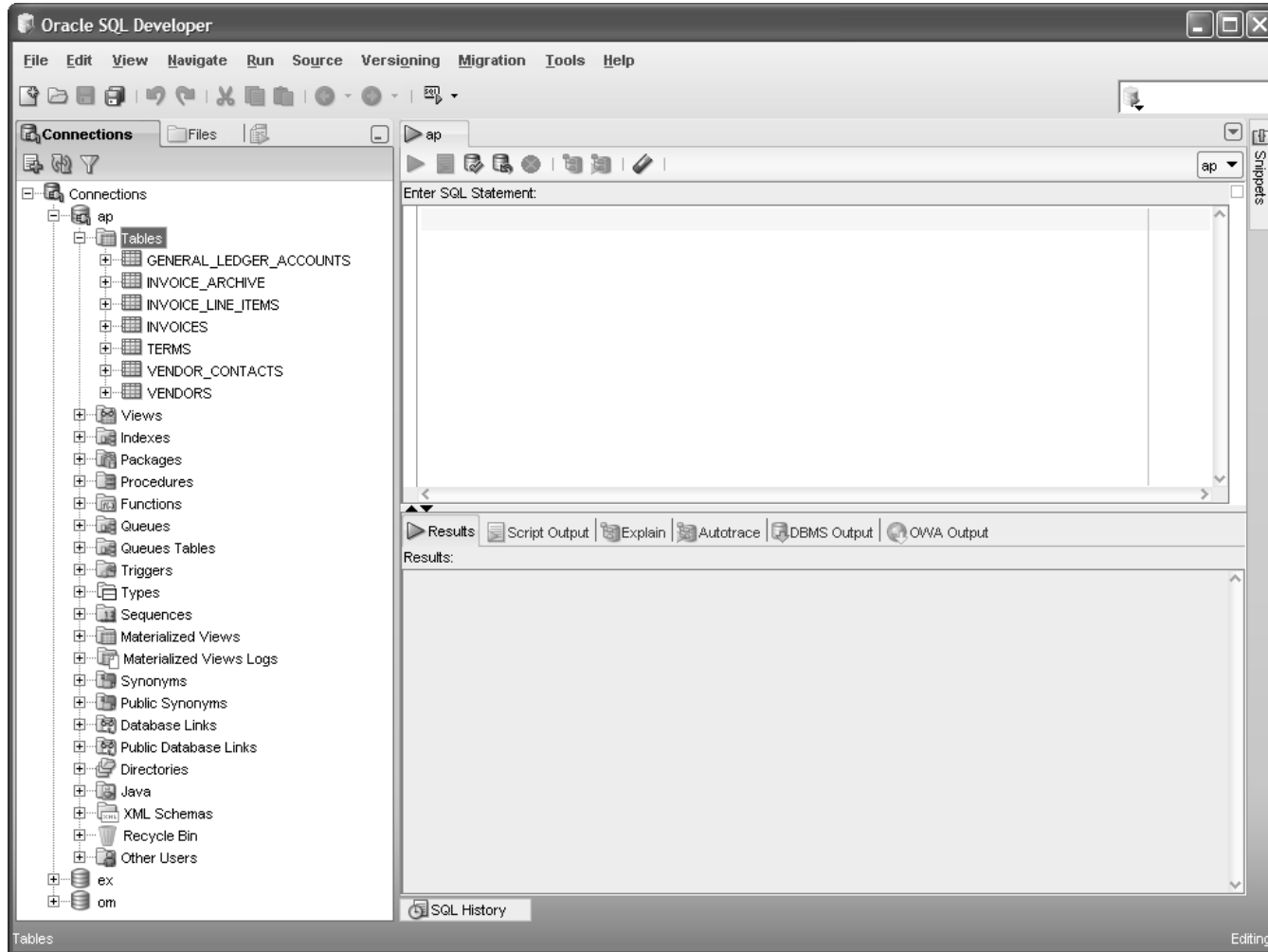
How to import database connections

- Right-click the Connections node.
- Select the Import Connections command.
- Navigate to the XML file for the connections.
- Select the connections that you want to import.

The Connection Information dialog box



The tables available to the AP user



The column definitions for a table

The screenshot displays the Oracle SQL Developer interface. On the left, the 'Connections' tree shows the 'ap' connection with a folder for 'Tables' containing the 'VENDORS' table. The main window shows the 'Columns' tab for the 'VENDORS' table, displaying a table with the following data:

Column Name	Data Type	Nullable	Data Default	COLUMN ID	Primary Key	COMMENTS
VENDOR_ID	NUMBER	No	(null)	1	1	(null)
VENDOR_NAME	VARCHAR2(50 BYTE)	No	(null)	2		(null) (null)
VENDOR_ADDRESS1	VARCHAR2(50 BYTE)	Yes	(null)	3		(null) (null)
VENDOR_ADDRESS2	VARCHAR2(50 BYTE)	Yes	(null)	4		(null) (null)
VENDOR_CITY	VARCHAR2(50 BYTE)	No	(null)	5		(null) (null)
VENDOR_STATE	CHAR(2 BYTE)	No	(null)	6		(null) (null)
VENDOR_ZIP_CODE	VARCHAR2(20 BYTE)	No	(null)	7		(null) (null)
VENDOR_PHONE	VARCHAR2(50 BYTE)	Yes	(null)	8		(null) (null)
VENDOR_CONTACT_L...	VARCHAR2(50 BYTE)	Yes	(null)	9		(null) (null)
VENDOR_CONTACT_FI...	VARCHAR2(50 BYTE)	Yes	(null)	10		(null) (null)
DEFAULT_TERMS_ID	NUMBER	No	(null)	11		(null) (null)
DEFAULT_ACCOUNT_...	NUMBER	No	(null)	12		(null) (null)

The status bar at the bottom left shows 'TABLE AP.VENDORS:@ap' and the bottom right shows 'Editing'.

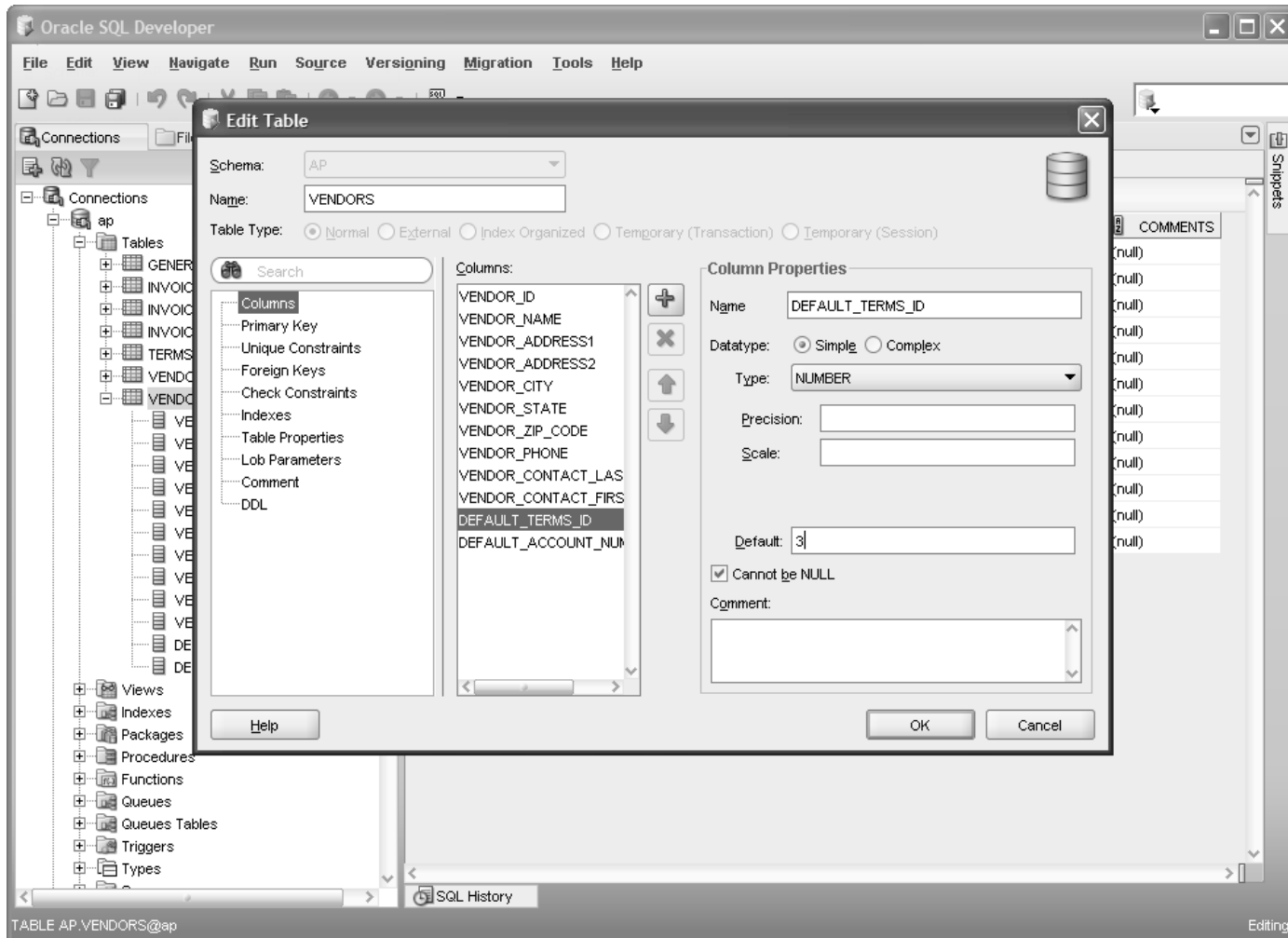
How to view the column definitions for a table

- Click on the name of the table in the Connections window.
- By default, the columns are displayed in the sequence in which they were created.

How to view the data for a table

- Click on the Data tab.

Editing the column definition of a table



A SELECT statement and its results

The screenshot shows the Oracle SQL Developer interface. On the left, a tree view displays the database schema, including tables like GENERAL_LEDGER_ACCOUNTS, INVOICE_ARCHIVE, INVOICE_LINE_ITEMS, INVOICES, TERMS, VENDOR_CONTACTS, and VENDORS. The VENDORS table is expanded, showing columns such as VENDOR_ID, VENDOR_NAME, VENDOR_ADDRESS1, VENDOR_ADDRESS2, VENDOR_CITY, VENDOR_STATE, VENDOR_ZIP_CODE, VENDOR_PHONE, VENDOR_CONTACT_LAST_NAME, VENDOR_CONTACT_FIRST_NAME, DEFAULT_TERMS_ID, and DEFAULT_ACCOUNT_NUMBER.

The main window displays the SQL Editor with the following SQL statement:

```
SELECT vendor_name, vendor_city, vendor_state
FROM vendors
ORDER BY
```

A dropdown menu is open, showing a list of columns from the VENDORS table. The column 'vendor_name' is selected.

The Results window shows the output of the query, displaying a table with 11 rows and 3 columns: VENDOR_NAME, VENDOR_CITY, and VENDOR_STATE.

	VENDOR_NAME	VENDOR_CITY	VENDOR_STATE
1	ASC Signs	Fresno	CA
2	AT&T	Phoenix	AZ
3	Abbey Office Furnishings	Fresno	CA
4	American Booksellers Assoc	Tarrytown	NY
5	American Express	Los Angeles	CA
6	Ascom Hasler Mailing Systems	Shelton	CT
7	Aztek Label	Anaheim	CA
8	BFI Industries	Fresno	CA
9	Baker & Taylor Books	Charlotte	NC
10	Bertelsmann Industry Svcs. Inc	Valencia	CA
11	Bill Jones	Sacramento	CA

The status bar at the bottom indicates "Line 3 Column 10" and "Fetch Rows: 50".

How to change the connection for a worksheet

- Use the Connections list

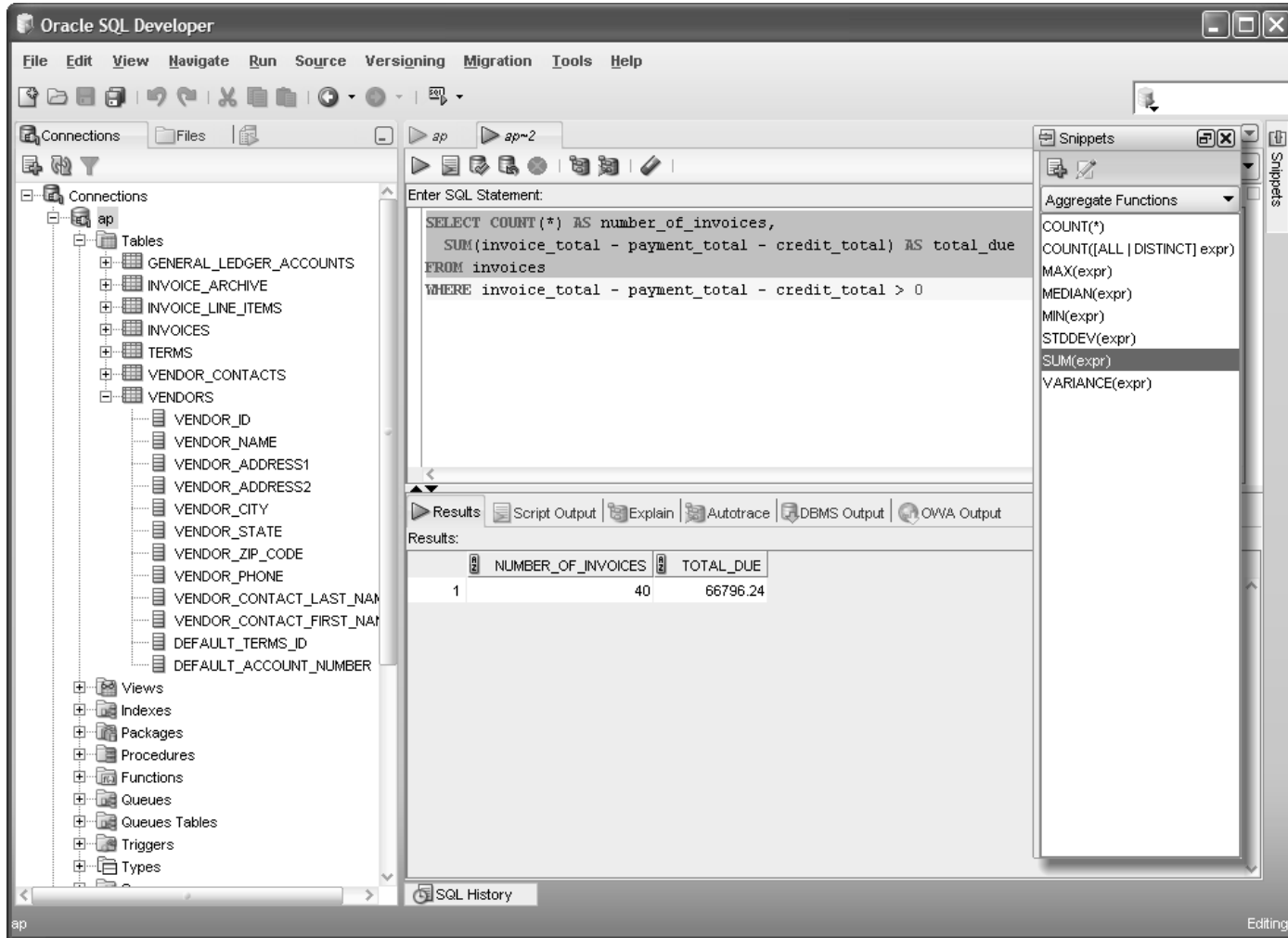
How to comment out or uncomment a line

- Press Ctrl+./.

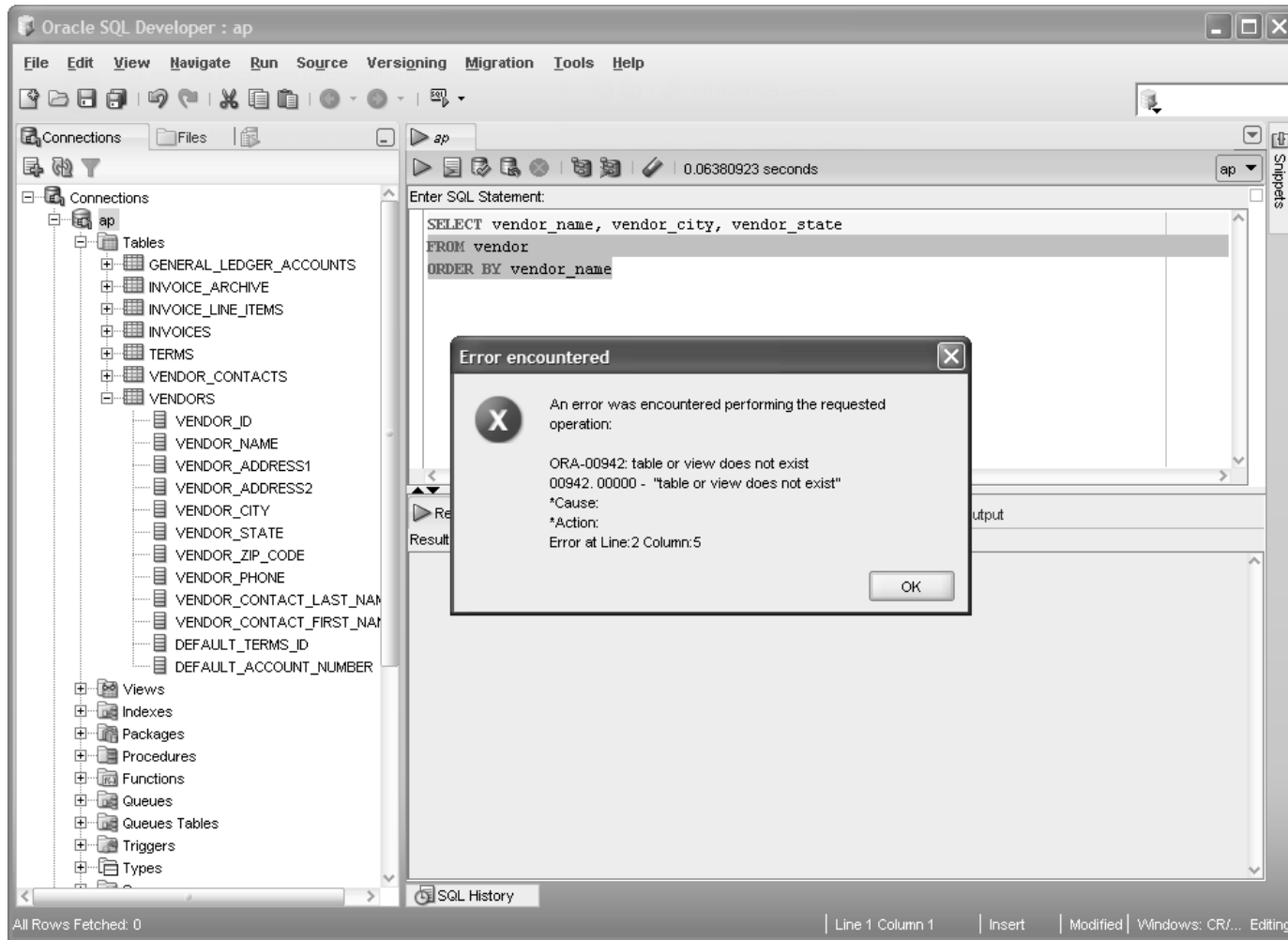
Two ways to execute a SQL statement

- Press the F9 key.
- Click the Execute Statement button in the toolbar.

Using the snippets window



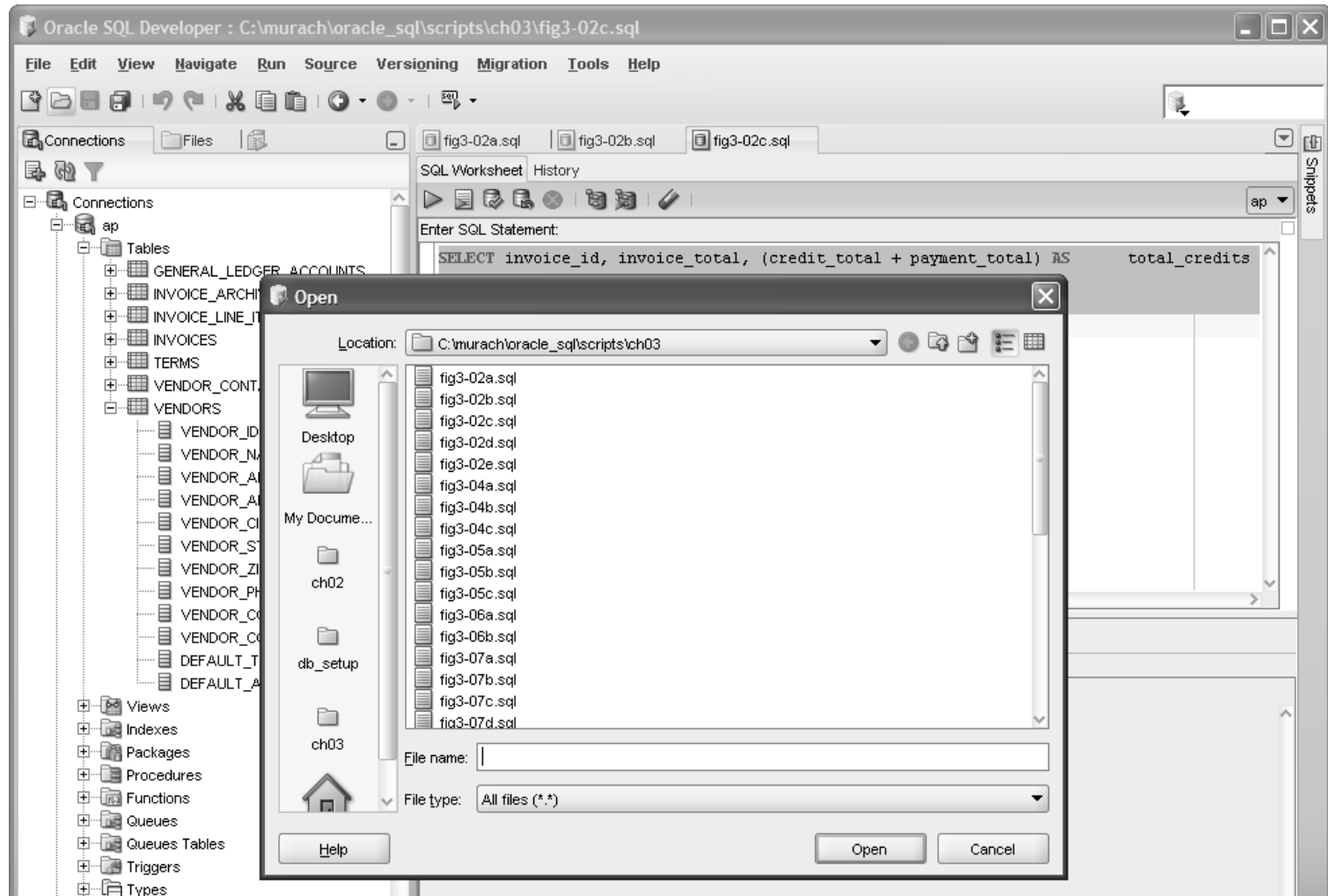
Handling syntax errors



Common causes of errors

- Misspelling the name of a table or column
- Misspelling a keyword
- Omitting the closing quotation mark
- Being connected as the wrong user

The Open File dialog box



Three ways to open a SQL file

- Click the Open button in the toolbar.
- Press Ctrl+O.
- Select the File→Open command.

How to switch between open statements

- Select the appropriate tab.

How to cut, copy, and paste code

- Use the standard Windows techniques.

Three ways to save a SQL file

- Click the Save button in the toolbar.
- Press Ctrl+S.
- Select the File→Save command.

How to change the default directory for new statements

- Use the Tools→Preferences command.
- Expand the Database node.
- Click on the Worksheet Parameters node.
- Change the default path for scripts.

A SQL script and its results

The screenshot shows the Oracle SQL Developer interface. The main window displays a SQL script with two queries. The first query selects the vendor name and city for vendor ID 34. The second query counts the number of invoices and calculates the total due for the same vendor. The results are displayed in a table format below the script.

```
SELECT vendor_name, vendor_city
FROM vendors
WHERE vendor_id = 34;

SELECT COUNT(*) AS number_of_invoices,
       SUM(invoice_total - payment_total - credit_total) AS total_due
FROM invoices
WHERE vendor_id = 34;
```

VENDOR_NAME	VENDOR_CITY
IBM	San Francisco

1 rows selected

NUMBER_OF_INVOICES	TOTAL_DUE
2	0

1 rows selected

How to run an entire SQL script

- Press F5 or click the Run Script button.

How to run one statement within a script

1. Move the cursor into the statement you want to execute.
2. Press F9 or click the Execute Statement button.

Note

- The results of a statement are displayed in the Results tab.
- The results of a script are displayed in the Script Output tab.

The Oracle Database SQL Reference manual

