INSTALLATION INSTRUCTIONS FOR THE STUDENT SAMPLE SCHEMA

PURPOSE
This document describes the files and steps used to create the STUDENT schema, which is used for all exercises in the Oracle by Example series.

OVERVIEW
This document is organized as follows:
> I. Steps to create the STUDENT account
> II. Steps to build STUDENT schema objects and load associated data
> III. Steps to rebuild the objects and data in the STUDENT schema
> IV. Additional example tables installation instructions
> V. List of files used in the create and rebuild steps

NOTE
These instructions will work in Windows and UNIX environments and should work in just about any other OS environment. If you use UNIX, substitute the drive and path names with the appropriate UNIX directory structure.

If you use SQL Developer, you will notice that some instructions are slightly different from the SQL*Plus version. The differences are pointed out as you read through this document.

I. STEPS TO CREATE THE STUDENT ACCOUNT
Before creating the STUDENT schema objects and loading data into them, it is necessary to create the STUDENT account (a schema/place/user in the database that will hold the objects and data). The default account and password used will be *STUDENT* and *learn* respectively. Please note starting with Oracle 11*g*, by default passwords are case-sensitive. The account name is not case-senstive.

If a DBA is managing your Oracle database, ask him/her to create an account named *STUDENT* with a password of *learn* and proceed with item II. Steps to Build STUDENT Schema Objects and Load Associated Data. If you need to create the account yourself, perform the following steps:

1. Connect to your database as SYSTEM (or any other DBA-type user account) and the appropriate password at the log on screen. This document will describe how to perform this functionality using the SQL*Plus command-line version from the Windows operating system prompt.

To invoke SQL*Plus from the command line, use the Windows Start Menu, choose Run and enter cmd (see Figure 1).

Figure 1
Windows Run

This will invoke the Windows command prompt (see Figure 2). Enter the command `sqlplus system`. Oracle will prompt you to enter a password. If you have a remote database, you may need to enter a connect string such as `sqlplus/system@orcl`.
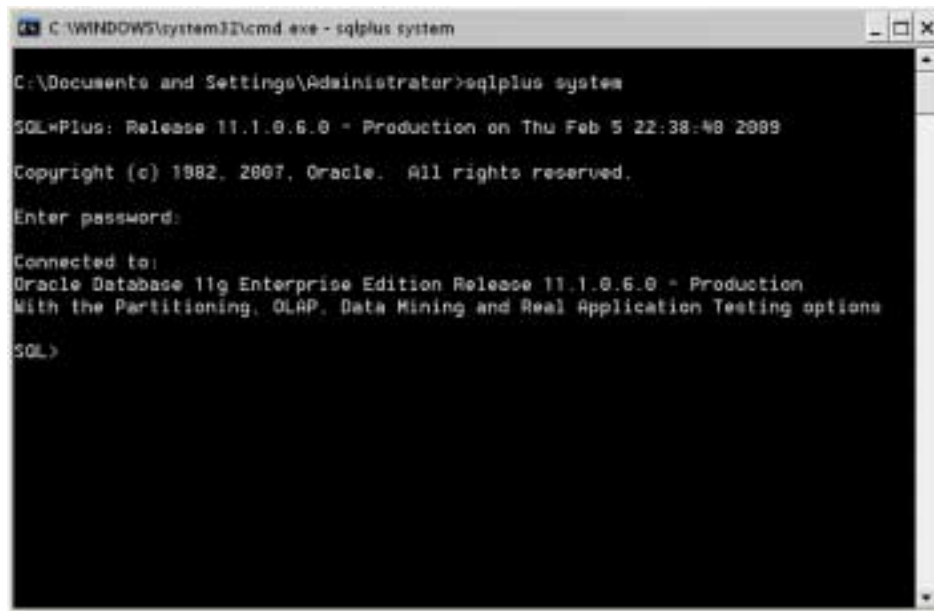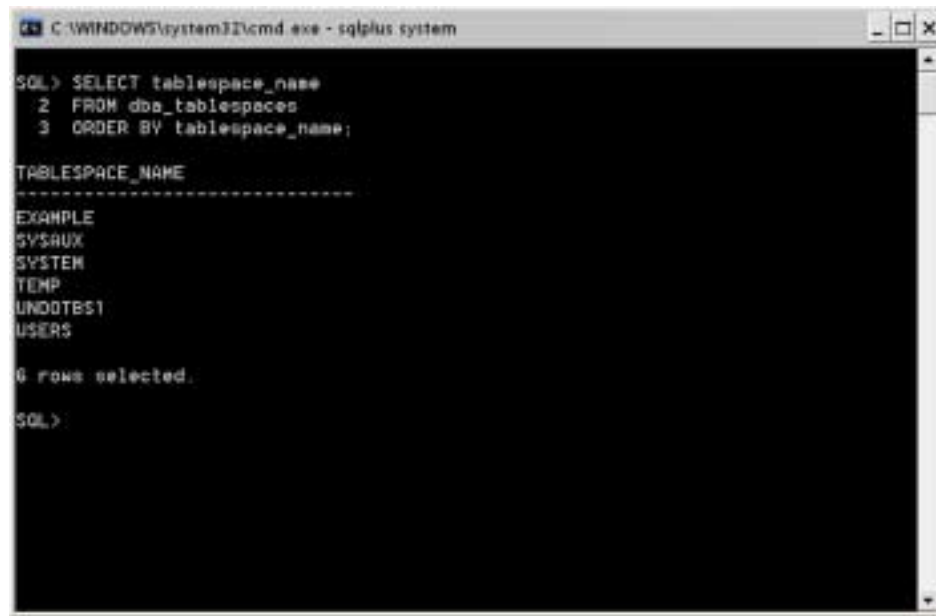

Figure 2
*SQL*Plus command-line version for Windows*

If you are unclear how to execute SQL statements or log on with SQL Developer or SQL*Plus, read through the Labs 2.1, 2.2, and 2.3 of the Oracle SQL by Example book. You probably remembered to write down the SYSTEM password when you performed your Oracle database system installation.

2. Once you successfully connect to the database with the SYSTEM account, issue the following SQL statement to find the names of the tablespaces in your database (see Figure 3). A tablespace holds database objects within an Oracle database. If you are not familiar with tablespaces right now, don't worry.

```
SELECT tablespace_name
  FROM dba_tablespaces
 ORDER BY tablespace_name;
```

Figure 3
SQL*Plus command-line version for Windows

3. After you executed this command, you need to find two particular tablespaces:

> (a) A tablespace used as the default place to store your objects. The name of this tablespace will vary depending on your operating system platform and your Oracle database version. Your DEFAULT TABLESPACE will have a name similar to one of the following:
>> USERS
>> USER_DATA
>> USR
>
> (b) A tablespace known as the TEMPORARY TABLESPACE. Typical names for TEMPORARY TABLESPACEs are:
>> TEMP
>> TEMPORARY
>> TEMPORARY_DATA

4. Once you have found your DEFAULT TABLESPACE and TEMPORARY TABLESPACE names write them down for the next step. Note that the most common two names will be USERS and TEMP.

5. Now you are ready to create the STUDENT database account.
      a. Still logged on as SYSTEM, issue the following statement, substituting
      the tablespace names from steps 3 (a) and 3 (b):

```
CREATE USER student IDENTIFIED by learn
DEFAULT TABLESPACE <name from step 3 (a)>
TEMPORARY TABLESPACE <name from step 3 (b)>;
```

      b. Your final statement should look similar to the following:

```
CREATE USER student IDENTIFIED by learn
DEFAULT TABLESPACE users
TEMPORARY TABLESPACE temp;
```

6. Next you need to give the STUDENT account the ability to use the database.
Execute the following statement while connected as the SYSTEM user:

```
GRANT CONNECT, RESOURCE TO student;
GRANT SELECT_CATALOG_ROLE TO student;
GRANT CREATE VIEW TO student;
```

7. Now you can test to see if you can connect as the STUDENT account.
      a. In SQL Developer, establish a connection with the login of student and
      the password learn. Again, if you're unfamiliar with SQL Developer,
      please refer to Labs 2.1 – 2.3 of the Oracle SQL by Example book.

      b. If you use SQL*Plus, issue the following statement at the SQL> prompt
      to connect as STUDENT:

```
CONNECT student/learn
```

If you connect to a remote machine, you may need to add the connect
string such as @orcl. Execute the SHOW USER command.

```
SHOW USER
```

You should receive this message:

```
USER is "STUDENT"
```

Now you are connected as the STUDENT user. You are ready to proceed to item
II. Steps to Build STUDENT Schema Objects and Load Associated Data.

II. STEPS TO BUILD STUDENT SCHEMA OBJECTS AND LOAD ASSOCIATED DATA

Connect via SQL Developer or SQL*Plus to the database as STUDENT user.
Make a note of the directory where you found this readme file you are reading
right now. By default, the self-extracting setup.exe file will place this file and
all others you need for installation is the C:\guest\schemasetup directory.

If you are using SQL Developer, do the following: Click File Open and then click
the Browse button to locate in the C:\guest\schemasetup directory the script

named createStudent.sql. Open the file, which brings it into the worksheet.
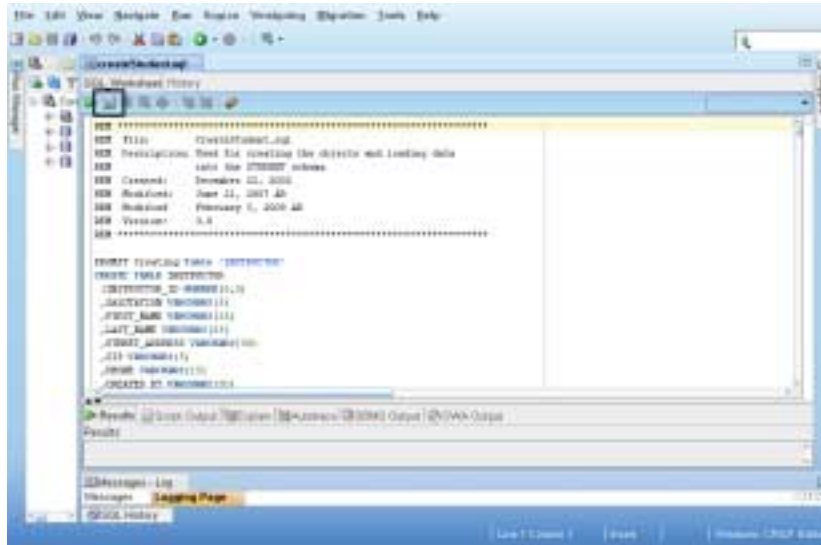Then click the Run Script icon or F5 to run the script (see Figure 4).

Figure 4
The createStudent.sql script within SQL Developer's worksheet

If you using SQL*Plus rather than SQL Developer and using the
C:\guest\schemasetup directory, issue this command at the SQL> prompt:


```
SQL> @c:\guest\schemasetup\createStudent.sql
```

Figure 5
*Executing the script from the SQL*Plus command prompt*

After the script completes (approximately 3-5 minutes), it will show a list of
counts representing the number of rows it created for each table. Compare
that list on screen with the following list. The two lists should match. If you
used SQL Developer, you may need to scroll all the way to the bottom of the
screen to see the result.

```
Count of COURSE Table: 30
Count of ENROLLMENT Table: 226
Count of GRADE Table: 2004
Count of GRADE_CONVERSION Table: 15
Count of GRADE_TYPE Table: 6
Count of GRADE_TYPE_WEIGHT Table: 300
Count of INSTRUCTOR Table: 10
Count of SECTION Table: 78
Count of STUDENT Table: 268
Count of ZIPCODE Table: 227
```

III. STEPS TO REBUILD THE STUDENT SCHEMA

This step will rebuild the objects in the STUDENT schema. You may wish to perform this step if you want to return the STUDENT schema objects to their pristine state. This is especially useful after you have worked through the chapters that focus on data manipulation. For example, if you have just been working on DELETing data, you may wish to restore that data to practice SELECTing the data. Caution: Running this script removes the objects and then creates the objects and reinserts the data!

Connect to the database as student/learn. A common place that you may have your script is C:\guest\schemasetup.

If you are logged into the database with SQL Developer, use the Open button to locate the rebuildStudent.sql script. Load the script into the Workspace area and press the Run Script icon.

If you are using SQL*Plus and the C:\guest\schemasetup directory, issue the following at the SQL*Plus prompt:

```
@C:\guest\schemasetup\rebuildStudent.sql
```

When the rebuildStudent.sql script has completed, it will show a list of counts representing the number of rows it created for each table. Compare that list on screen with the following list. The two lists should match.

```
Count of COURSE Table: 30
Count of ENROLLMENT Table: 226
Count of GRADE Table: 2004
Count of GRADE_CONVERSION Table: 15
Count of GRADE_TYPE Table: 6
Count of GRADE_TYPE_WEIGHT Table: 300
Count of INSTRUCTOR Table: 10
Count of SECTION Table: 78
Count of STUDENT Table: 268
Count of ZIPCODE Table: 227
```

IV. ADDITIONAL EXAMPLE TABLES INSTALLATION INSTRUCTIONS

The Oracle SQL by Example, 4th edition, contains additional example tables that help illustrate extra functionality and concepts. If you want to try out some of these exercises in the book, I suggest you install these tables in the STUDENT schema.

In SQL Developer: To run the script sql_book_add_tables.sql
In SQL*Plus: At the SQL prompt, issue the following command:

```
@C:\guest\schemasetup\sql_book_add_tables.sql
```

If you want to remove these tables from the schema, run the drop_extra_tables.sql script.

V. LIST OF FILES IN THE ZIP FILE

The following is a list of the files included in the downloaded zipped file.

File Name	Description
createStudent.sql	The primary script that creates the objects in the STUDENT schema.
dropStudent.sql	A script that drops STUDENT objects.
readme.pdf	This is the file you are currently reading containing installation instructions.
rebuildStudent.sql	The script to run for recreating and reloading the STUDENT schema tables.
AppendixD.pdf	This file graphically displays the STUDENT schema diagram; you need Adobe Acrobat to view it.
sql_book_add_tables.sql	This script creates additional example tables not created by the createStudent.sql script.
drop_extra_tables.sql	This script drops the additional example tables created by the sql_book_add_tables.sql script.