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Most students taking this class will use the CCSF Oracle system to do their class work; that is generally the easiest way. I have included a document on other software choices in this unit.

If you are using the CCSF system, the "setup" is pretty minimal. Our student Oracle system is on the dunes server. When you enroll in this class you will get a dunes account that lets you log into the server. You will also have your account set up so that you have permission to use the Oracle dbms. You need to do a few things to get started. These are things you need to do only once.

1) Be certain that you have the software needed to connect to the dunes server - we recommend SSH Secure Shell for windows users. There is a separate document in this unit on getting SSH Secure Shell. You can use other communication programs. You will be doing your work on the dunes/Oracle system; it makes no difference how you connect to dunes.
2) The first time you log into dunes, you will have to change your default password. The dunes system was changed in May 2103 and people with previous accounts will still need to handle the initial password change. If you had a dunes account earlier (such as last semester), your password will not be reset.
3) You will have to modify a file on your account to access Oracle
4) You should create a directory on your dunes account for your files for this class.

This document also discusses a routine log-in that you will use most of the time.

1. First Time Connecting to the CCSF Linux system

1.1. Dunes accounts

In this class, every student has a dunes account that can access Oracle. Dunes is the student server running linux. You can connect to the dunes linux system from the ACRC, from other places on campus, or from your home computer using a communication program such as SSH Secure Shell to connect (see info on SSH Secure Shell in another document for this unit.) Dunes is normally available 24 /7.

When you connect to the linux system, you need a dunes user name and a dunes password; to then log into Oracle you need an Oracle user name and an Oracle password. Your dunes **user name** and your Oracle **user name** are the same. The passwords can be different.

The linux operating system is case-sensitive. This applies to login ids, passwords, and commands. Most entries are made in lower-case letters.

dunes login: We are now using your Gmail userid as the id to your dunes account. You can look up that userid (and your initial Gmail password) inWeb4 /WebStar under "Personal Information."

dunes initial password: For dunes accounts, the initial password pattern in mmmddyy.xx. The first part mmmddyy is based on your birthdate formatted as the three letter month abbreviation , in lower case, followed

by two digits for the day and two digits for the year. Then there is a period, followed by the first two characters of the login. For example, if Martha Graham (with user name mgraham) told CCSF that she was born on July 5, 1935, her initial password would be `jul0535.mg`

This password is used only for your first login and you will be forced to select a new password at your first linux login.

(This format for student passwords is being used for dunes accounts, Windows accounts in the ACRC, Mac server accounts, and Linux accounts.)

Your password is a string of characters that you will select to guard access to your account. A password must be at least six characters long and contains at least two letters and one digit. It is case-specific. You may use the period (.), the hyphen (-), and the underscore (_) in your password. Avoid other special characters since they might have a special meaning to linux.

If you forget your password, you will not be able to logon to the dunes system. Your password is private information and you can change it at any time.

If you forget your CCSF dunes password (or your Oracle password) or have any trouble running SQL*Plus you should call the Help Desk; it should be available 24/7. the phone numbers are 415.239.3711 and Toll Free 844.693.HELP. The email is helpdesk@ccsf.edu. Please note: the help desk does not provide help with the class material. The help desk staff can also reset dunes and Oracle passwords.

I cannot reset a CCSF password.

1.2. First time login to dunes

The first time you log in to dunes, there will be some additional tasks

- Log into dunes. The dunes server is at dunes.ccsf.edu
- Change your default password; the password is not displayed; the system will automatically log you out after this
- Log back into dunes using the new password

The command to log out of linux is **exit**.

(The ACRC has a handout that is used in their Orientations for logging into dunes. It is very detailed and included some steps that are specific to using the ACRC. It might be helpful for students who have never done this before. http://www.ccsf.edu/Services/ACRC/handouts/dunes-1_Login_out.pdf. You could also attend the ACRC orientations.)

1.3. Set up for Oracle

This is done **once only**.

- Download the following 2 files from Canvas – you can click on the links to access them directly
  - ora_profile
  - set_oraenv
- Upload these 2 files to your root folder on dunes. You root folder is your default login folder.

You need to edit your profile file so that you can access Oracle.

- Log into dunes
- edit your .bash_profile file

To edit your .bash_profile file: You need to know how to use a linux editor to do this. nano is the easiest editor to use.

- Log into dunes
- At the dunes level, use an editor to edit the file named .bash_profile --- the file name starts with a dot.
- You can use the nano editor by typing

```
nano .bash_profile
```

- Arrow down to the bottom of the file and append the following line. This line starts with a dot and a space.

```
. ora_profile
```

- After you enter that line, enter Ctrl_X to exit nano
- Enter "y" when prompted to "Save modified buffer…"
- Press Enter to accept the existing file name when prompted for "File Name to Write:"
- You then need to execute that file so that these changes are made. You can do that with the dot command (this has a dot, then a space and then the filename .bash_profile)

```
. .bash_profile
```

  or by logging off and logging in again.
- You can find detailed instructions for the nano editor at **The nano Editor**

1.4. Directory for storing your scripts

Create a directory to store your script files. When you create script and spool files on the linux system, those files will be stored in your current directory. It is a good idea to keep all of these files in a separate directory—not at your root directory.

- Log into dunes
- Make a directory for your files; you do this **only once**
- `mkdir 151A`
- Change to your directory for your class stuff ; you do this each time you login **before you login into the Oracle system**
- `cd 151A`

2. Routine Connecting to the CCSF Linux system and oracle

Once you have set up your account for Oracle access, the steps to get to Oracle will be pretty simple:

- log into dunes
- change to your directory for your files (cd 151A)
- log into Oracle
- do your Oracle work
- log out of Oracle (exit)
- log out of dunes (exit)
- You can find instructions on using Linux at Hills Linux **(this does not mean we are using hills. The documentation for hills is the same as for dunes).**

2.1. Routine login to Oracle

The command to log into Oracle is sqlplus. You will be prompted for your user name and then for your password. Your **initial** Oracle password follows the birth date pattern with the .xx pattern. (The staff at the ACRC and the Help Desk can change your Oracle password if you forget it.)

- Log into dunes
- Change to your directory for your class stuff
- **`cd 151A`**
- Log into Oracle
- **`sqlplus <User ID>@ORCL (ex. sqlplus dsgoldma@ORCL)`**
- Supply your login when prompted. It is the same password as your dunes Linux password (see above).
- Supply your password when prompted
- Do something in Oracle so that you know it works. The following statement displays the current date and is enough to let you know that you have successfully gotten into Oracle.
- **`select sysdate from dual;`**
- Log out of Oracle
- **`exit`**
- Log out of dunes
- **`exit`**

Note: it is possible to give the sqlplus command and your login on the same command line; this is OK. It is also possible to include your Oracle password on this command line—this is not a good idea. Anyone using the linux system can give a command to see everyone's command lines. If you put your password on the command line, it is exposed to all users.

When you have logged into SQL*Plus, you are said to have started an Oracle session. The session ends when you log out of SQL*Plus.

To quit SQL*Plus, use the command exit

It is important to log out of Oracle and then log out of linux. If you simply close your communication program, your data might not be saved and your tables might be hung up for a while. Do the exit from Oracle and the exit from linux- it will save you time.

2.2. Changing your Oracle password

You may wish to change your SQL password. The method to accomplish this has changed in the new Dunes Oracle implementation. The new steps are as follows:

- Login to Oracle with SQL*Plus and issues the following commands:

```
SQL> alter session set "_ORACLE_SCRIPT"=true;
SQL> alter user <User ID> identified by <New Password>
```

- If you have special characters in your password you must enclose the entire password in double quotes. For example,

```
SQL> alter user dsgoldma identified by "myp@ssK!ds"
```

3. Entering a SQL command

The prompt for SQL*Plus is SQL>. You type in an sql statement at the prompt, hit the enter key and the system responds. For your first command enter the following. Be certain to include the ending semicolon.

```
select sysdate from dual;
```

3.1. Copy and paste approach for testing single queries

Another method to work with the SQL*Plus environment in creating SQL statements in a windows environment is to take advantage of the copy and paste features of windows. Open a second window with Notepad (or Notepad ++) or other text editor. Create and edit your SQL statement in the text document. Then copy it and paste it into your Oracle SQL*Plus session window using copy and paste techniques.

It is likely that your Oracle SQL*Plus session window will appear garbled but it should run. You can give the list command to review the SQL buffer. If this is a Select command, you can use the / command to run the statement again.

This is helpful for testing because you can use the editing capabilities of the text editor when creating the SQL statements and can save that document separate from the Oracle system. You should be able to copy the demo sql from the supplied notes to the client to try them out.

You can also copy the output from the SQL*Plus window to your text document.

You can use this approach to building up the script file for assignments, but you need to use the spool command to create the spooled output for grading.

4. File names, Extensions, Paths

I expect people taking this class to have sufficient experience with their computer system to handle the following. This refers to working with files on your **local computer**- not files on the dunes system. I expect that all files you have on the dunes system are in your 151A directory if this is the only class you are taking that uses the dunes system. The linux system displays the full pathname.

The files we will use have a name which consists of a base name and an extension. For example, for Assignment A01, a student with the last name of Jones will have a file named A01_Jones.sql and another file named A01_Jones.lst. These files differ only in the file name extension (sql and lst are file name extensions.)

Some systems try to hide the file name extensions. Some systems say you do not need file extensions. But for the class assignments you do need to have file names such as A01_Jones.lst and A01_Jones.sql and you need to be able to tell these files apart. So you may want to find out how to do this.

You can do an internet search for something like : Mac file extensions or Windows extensions to get directions for your system.

This is a page I found that shows techniques for windows XP, 7, and 8 (and it has pictures).

http://www.bleepingcomputer.com/tutorials/how-to-show-file-extensions-in-windows/

You will probably keep a copy of your assignment files on your local computer ; You will also upload a copy of your script file to dunes in order to run it.

File path- this is a string that says where to find a file on your file system. The full path starts at the root of the disk- or other storage device- and lists the various folders you need to go through to get to the file. You use the

backslash(\) to separate the components of a path. C: represents the C hard drive. (this is the windows version Mac people do a search for Mac file path).

For example

```
C:\db_scripts\A01_Jones.sql
```

The next path which is a single string may be to be quoted because it contains spaces.

```
C:\Documents and Settings\Rose Endres\My
Documents\CS\2016_spring\151A\5_scripts_151A\151A_vets\vets_creates_151A.sql
```

There is a place in a command line where you have to write the pathname to a file- which of these would you prefer to write? Keep your script files in a folder with a short pathname.