

ASSIGNMENT #5 – User Administration

ISQA 4300/8306

Fall 2010

**Due date: Wednesday, December 1
(according to Blackboard)**

Overview

We have examined a number of different aspects of user management, which is one of the key functions of the database management system. We have seen how Oracle can provide very fine-grain control to the DBA regarding the management of users, their resource use, and their access privileges. In this assignment you will learn to

- Create users
- Enforce password policies
- Manage user resource use
- Grant system and object privileges
- Create, use, and manage roles

Task 1 Granting privileges

For the following, please submit all SQL and DDL statements you use to carry out the instructions. When necessary, please indicate the account from which the commands were executed. For example “WOLCOTT4300> “ would do the trick.

Please replace ‘XX’ with your initials (e.g. ‘PW’) throughout the following instructions.

1. You are creating accounts for some new employees for your company, Karl and Kara. Each account will use the USERS tablespace as the default and the TEMP tablespace as the temporary tablespace. XX_KARA will have a quota of 10M on the USERS tablespace; XX_KARL will have 5M. Each will have the same profile. Create a profile called XX_DATAENTRY. It should cause an account to lock if 5 failed login attempts in a row are made, but unlock after two hours. The system should log the user

out after 45 minutes of idle time and allow a user to be logged in for no more than 10 hours at a single stretch. The password should be changed every six months, and cannot be changed back to an earlier password for at least a week.

2. Karl and Kara are data entry employees and, like all data entry employees, have the ability to insert data into the CUSTOMER, ORDERS, and ORDER_DETAIL tables in the WOLCOTT4300 schema. They do not have the ability to delete, update or view the data in these tables. They may change only the columns in CUSTOMER that constitute the customer city and state. Grant XX_KARA and XX_KARL the minimum necessary privileges in a way that makes it easy to manage the privileges that all data entry employees have.
3. The product managers in the company also have the ability to view, make changes, and delete data in the PRODUCT table in the WOLCOTT4300 schema. Product managers may also view data in the ORDERS and ORDER_DETAIL tables. Kara has just been promoted to a product manager. Remove her data entry privileges and grant her the privileges of a product manager.
4. Karl has decided to become an applications/database developer. He will need to be able to create tables, procedures, and triggers. He will have to be able to read the data in the CUSTOMER, ORDER, ORDER_DETAIL, PRODUCT, and PROMOTION tables located in the WOLCOTT4300 schema so that he can extract data from these tables and place it in development tables in his own account. Grant Karl the necessary privileges.
5. Grant Kara the privileges necessary to give other employees the same privileges as a product manager.

Task 2. Determining privileges

What system and object privileges does the user KAITLIN have? Remember, privileges may be granted either directly, or via roles. You will need to run multiple queries.

Task 3. Determining roles

The following table indicates the privileges individuals have on the tables that constitute the database for an animal shelter. Based on this information, identify

the roles you feel are most appropriate. For each role, indicate the privileges to be granted to that role. Indicate the role(s) to be granted to each individual.

The PET table contains data about the pets in the shelter: breed, name, age, gender, color, date arrived in shelter, date adopted.

The TREATMENT table contains data about possible treatments given to pets: treatment type, description

The PET-TREATMENT table stored data about treatments given to pets: date of treatment, treatment details

The FAMILY table contains data about families who adopt pets: family name, address, contact information

The ADOPTION tables records the adoption of a pet by a family: adoption date, thank-you letter sent

	FAMILY	ADOPTION	PET	PET-TREATMENT	TREATMENT
SELECT	Madeline Justin Jean	Madeline Justin Jean	Amanda Paul John Michelle Jonathan Jean	John Michelle Jean	John Michelle Jean
UPDATE	Madeline Justin Jean	Madeline Justin Jean	Jonathan Jean	John Michelle Jean	John Michelle Jean
INSERT	Madeline Justin Jean	Madeline Justin Jean	Jonathan Jean	John Michelle Jean	John Michelle Jean
DELETE	Jean	Jean	Jean	John Michelle Jean	John Michelle Jean

ISQA 8306 students:

Roles were developed to facilitate the management of privileges, so that privileges could be bundled together than managed as a set, rather than individually. It is possible to build quite a hierarchy of roles leading up to a top-level role (a role is granted to a role that is granted to a role that is granted to a role, etc.), with each level absorbing the privileges of the level beneath it, and

gaining some additional privileges too. What are the strengths and weaknesses of this strategy? Do some research to determine what might be considered best practices for the use of roles.

Task 4: Reflection (5%)

Pick **two** (2) of the bullet points from this list and answer the questions¹. Please indicate which questions you are answering.

- What did I actually achieve with this piece of work? Which were the most difficult parts, and why were they difficult for me? Which were the most straightforward parts, and why did I find these easy?
- How well do I think I achieved the intended learning outcomes for this task? Where could I have improved my achievement? Why didn't I improve it at the time?
- What have I got out of doing this assignment? How have I developed my knowledge and skills? How do I see the payoff from doing this assignment helping me in the longer term?
- What else have I got out of doing this assignment? Have I developed other skills and knowledge, which may be useful elsewhere at another time? If so, what are my own emergent learning outcomes from doing this assignment?
- What was the best thing I did? Why was this the best thing I did? How do I know that this was the best thing I did?
- What worked least well for me? Why did this not work well for me? What have I learned about the topic concerned from this not having worked well for me? What have I learned about myself from this not having worked well for me? What do I plan to do differently in future as a result of my answers to the above questions?
- With hindsight, how would I go about this assignment differently if doing it again from scratch? To what extent will this assignment influence the way I tackle anything similar in future?
- What did I find the greatest challenge in doing this work? Why was this a challenge to me? To what extent do I feel I have met this challenge? What can I do to improve my performance when next meeting this particular sort of challenge?
- What was the most boring or tedious part of doing this assignment for me? Can I see the point of doing these things? If not, how could the assignment have been re-designed to be more stimulating and interesting for me?
- Has it been worth the effort I put in? Do the marks represent a just reward? Should this assignment be worth more or less marks in the overall scheme of things?

¹ Questions taken from <http://www.escalate.ac.uk/resources/reflection/09.html>

- Do I feel that my time on this assignment has been well spent? If not, how could I have used my time more sensibly? Or should the assignment have been designed differently? Which parts of the assignment represent the time best spent? Which parts could be thought of as time wasted?
- How useful do I expect the feedback to be, that I receive on my efforts for this assignment? What sorts of feedback do I really want at this point in time? What sorts of feedback do I really need at this point in time? What are my expectations of getting useful feedback now, based on the feedback (or lack of it) that I've already received on past work?
- Overall, how has this assignment helped (or hindered) my motivation to learn more about this part of my syllabus? Has it encouraged me, or disillusioned me?
- To what extent has this assignment helped me to clarify what I need to learn about this topic? Have I a clearer picture after doing the assignment, or a foggier one? Who can help me gain a clearer picture, if the latter?
- To what extent has this assignment helped me to see where the goalposts stand for future assessments such as exams? Has it given me useful insights into what will be expected of me in future?
- What advice would I give go a friend about to start on the same assignment? How much time would I suggest that it would be worth putting into it? What pitfalls would I advise to be well worth not falling into?
- What are the three most important things that I think I need to do with this topic at this moment in time? Which of these do I think is the most urgent for me to do? When will I aim to start doing this, and what is a sensible deadline for me to have completed it by?

Deliverables

- Task 1: SQL/DDDL commands
- Task 2: List of system and object privileges; queries used to determine the privileges.
- Task 3: List of roles & privileges granted to each; List of individuals & roles granted to each.
- Task 3b (8306): Approximately a page of discussion, with citations of sources.
- Reflections