

In the COVET project, we have collected many great examples of teaching that have been transformed from the classic off-line version into a modern online learning method.

These sample lessons have been created by VET teachers from different EU countries. We present them to you as inspiration for your work.

The lessons are particularly suitable for vocational teachers, but can also serve as a training tool for teachers, trainers and lecturers in other educational settings.

All sample lessons, training materials as well as all information about the project are available at:

https://www.covet-project.eu/

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User's Accounts

Offline version of the lesson:

(A brief introduction to the subject, general situation, type of lesson. What the aim of the lesson would be and how the lesson would be used.)

The main objective of this lesson is to teach the students to connect to the Oracle server with administrator rights and create a user account with password and space allocation.

In the offline version, the lesson had the following content:

We briefly reviewed the previous lecture to provide some feedback and necessary information. It was followed by explanation and discussion. After that the students were assigned practical exercises and we discussed possible solutions, the entire class controlled the development.

Online version of the lesson

(What had to be taken into account, the reasons for the changes that were made, the new applications and tools that had to be incorporated into the lesson.)

In order to turn this lesson into the online environment, I had to consider and change the following things:

- Changing the method of explanation of the topic
- Writing explanations on the blackboard.
- Tone of voice.
- Working out exercises and correcting them.
- Working out diagrams
- Changing didactic tools.

Following these considerations, I had decided that the following would have to be done.

- Convert the lecture into shorter and very practical lessons so that they can be video recorded and sent to the students (information chunks) and repeatedly used through streaming.
- Describe in detail all the steps to be followed for each exercise, so that the students can develop them themselves.
- Provide more detailed and more frequent exercises than usual, in order to check them more
 closely and to locate errors more accurately, and ask the students to upload them to an
 online platform.
- When necessary, produce more detailed and accurate diagrams than those presented in the
 offline version, because it is more complicated to correct them online than when they are
 done in person.
- Reduce the volume of the voice, as there is a tendency to use a higher volume when teaching distantly.

In order to achieve that I had to search for various tools and applications enabling me to turn this lesson into a fully online lesson. I realised that I would need an advanced word processing software to use highlighting and graphic functions when preparing exercises and notes, multimedia equipment (camera, microphone) to transmit live explanations of the topic; graphic design tools to create diagrams (not used in this sample lesson because they are not necessary for the exercise); virtual machines so that students can develop the practical exercises at home; and an online platform to control the exercises.

After this thinking process I realised that I would need the following in order to make the class as comfortable for the students and myself as possible. My primary demand was to find ones that would have sufficient capacity and features, and would be free.

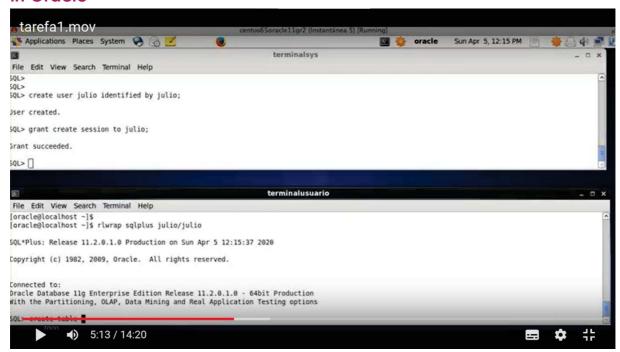
- Word processor with advanced features to develop a set of notes. I chose LibreOffice
- Graphic design software to develop the diagrams to be given to the students. I chose Yed
 Graph Editor
- Computer whiteboard to develop online exercises Openboard
- Operating system for installing applications Linux (Ubuntu)
- Virtual machine software to install the virtual machine provided by the teacher with the computer software to be used. **VirtualBox**
- Module software Oracle 11gR2.
- Multimedia devices: microphone, camera.
- Computer platform to check exercises independently done and sent to me by students, and to send and receive notifications. **Moodle**
- Computer for installation of all necessary software. Its configuration would have to meet the minimum requirements for installation of all the required software. It is always necessary to make sure that all the computers meet these requirements.

Final result

<u>Video</u> (in Spanish). A tutorial guiding the students. It guides them through the following tasks:

- connect as an administrator:
- launch the oracle server
- create user with password
- assign rights to this user to be able to connect to the server.
- assign rights to this user in order to be able to create tables
- assign rights to this user to be able to have a workspace
- log in as the created user
- create a table and insert a row

An example from the video-tutorial with instructions on how to proceed in Oracle



The students work on their own following the video and the worksheet. They learn by trying themselves and making their own mistakes.

Activity. This is the list with the above-mentioned tasks for the students. It is in Spanish but the sequence of tasks is obvious.

A sample of the translated worksheet with detailed instructions

Task 1: theory: user accounts

In order to create a user account (for example the account of the hr user that you use daily to work with oracle) we can do it progressively or do it all at once.

We are interested in doing it progressively to see all the individual possibilities that Oracle gives us.

The first thing to know is that we must connect with a user who is authorised to perform database administrator operations. The user hr does not have this authorisation. A user that does have authorisation is **sys**, so before executing this command we must connect as this user.

As we are going to be creating things all the time and we need to check if they work, it is essential that we have two terminals open at the same time, one as a sys and the other available to connect with any other user.

To connect to oracle we have two situations:

1) que a maquina este parada co cal temos que iniciala deste xeito :

open a new terminal and write only what is in bold (the rest will be shown in the terminal as a response to our commands).

[oracle@localhost ~]\$. oraenv (IMPORTANT: note that there is a white space between the <u>dot</u> and the word <u>oraenv.</u> ORACLE_SID = [orcl] ? orcl

The Oracle base for ORACLE_HOME=/home/oracle/app/oracle/product/11.2.0/dbhome_1 is /home/oracle/app [oracle@localhost \sim]\$ rlwrap sqlplus sys/oracle as sysdba

A sample from the very end of the translated worksheet

Commit complete.

Well, everything that we have done regarding user creation, session permission and tab creation and space allocation could be done with just two sentences that simplify the whole process and that would be these:

-dende terminalsys:

create user julia identified by casa quota 20m on users; grant create session, create table to julia;

Final feedback

The transfer of the lesson online has obvious drawbacks. It requires a great deal of preparation on the part of the teacher. The teacher has to be updated in the use of didactic tools. As there is no direct feedback from the students, mistakes can be made in the preparation of the lessons, because many things are often taken for granted by the teacher even though it is not the case for the students (expressions used, some concepts and terms, etc.). Online environment does not enable the teacher to react and respond immediately. Not all students respond well to this type of teaching, because they need to be present 'in person' and in contact with their classmates in order to feel accompanied in their learning process. The interaction between students is lost in the sense of solving problems directly between them. The direct relationship between the student and the teacher is also gone because the attention of the teacher is focused on observing the class. Good equipment and more interactive and free didactic tools are needed so that all students can use them from home and make the whole process more participative.

There are certain advantages to moving this lesson online. Students can review the theoretical explanations and exercises (video and text) as often as they like. Once the lesson is online, the teacher can focus more on resolving doubts than on repeating the lesson, since it is already available on video and in writing and the student can reliably check it himself/herself.



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