Database practicum database manager

Manual for teachers

Pearls of Computer Science

Pearls of Computer Science

You have credentials for this course

To use the database, connect to utwente.nl using these credentials:

Username and DB name:	dab_Pearls_of_Computer_Science_20
Password:	YDwDhw4LJAHxQNqD

Example command for connecting:

```
psql -h utwente.nl -U dab_Pearls_of_Computer_Science_20
dab_Pearls_of_Computer_Science_20
```

| Delete database and release credentials	Reset database	Get dump of database

Table of content

Introduction

This manual is meant for users of the Database Administration Bundle (DAB). This manual will cover all functions which can be used inside of DAB. This manual will handle the functions page for page. The first section will describe the general structure of the site. In the remaining sections the functions per page will be explained. At the end a FAQ is included. In order to use DAB to its full potential it's advisable to read this FAQ. This manual will provide screenshots of DAB used on a desktop. For a mobile phone, the site structure will look slightly different. Apart from some minor visual differences the functions will behave exactly the same.

Welcome Screen

After a successful login a teacher will be presented with the following view:
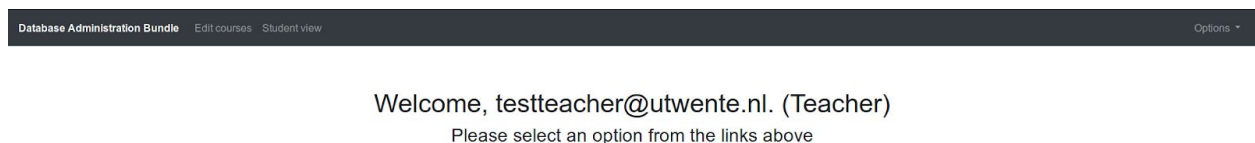
The different pages within DAB can be seen on top of the startpage, namely: Edit courses and the Student view page. At the top right is a "options" button with some additional functions.

In short every page contains the following functionality:

- **Edit courses**: This page is also accessible for a teacher and can be used to manage courses. Tasks like creating courses or adding a TA to a course can be managed on this page. Further information can be found in the "edit courses" section.
- **Student view:** This view is visible to every user with at least a student role. On this page databases can be created. Database creation is normally done by a student, but a teacher or administrator can also create a database this way. Further information can be found in the section "student view".
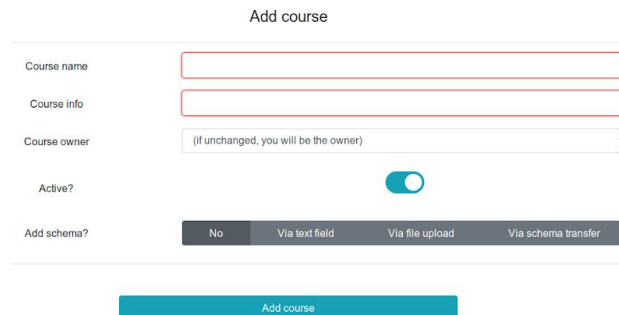
Edit Courses

When the user clicks the "edit courses" button in the top menu an overview similar to the following will appear:
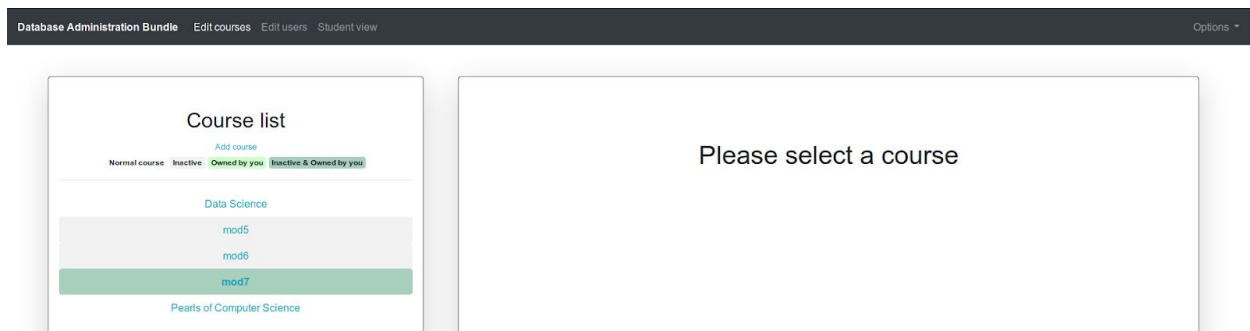
The view is divided into a left and a right part. On the left is a list with courses. Above the list with courses is extra information provided about the color coding in the list. In short the colors have the following meaning:

- **Normal course:** in this case the course will not have any color. The course is active, but is not owned by the currently logged in user.
- **Inactive:** The course is not active. This means that the course is known inside of DAB, but a student can not yet see this course. This can be convenient in case additional information is provided later in time or to make the course visible to the student at a specific moment in time. This will give the row a light gray color. ***Important: although possible, it is not advised to activate the course during a course and let students create databases all at the same time. The best way is to request a database creation via a canvas notification. This will give the best experience for both the student and teacher.***
- **Owned by you:** this course belongs to the currently logged in user. For a teacher this means changes can be made. An administrator can make changes in any case. This will give the row a light green color.
- **Inactive & owned by you:** if the currently logged in user is owner of this course, but the course is not yet visible for students. This will give the row a dark green color.

On the top of this list is a button to add additional courses. Clicking this button will provide the user with a simple to follow instructions on how to add a course. These instructions will look similar to the following view:

An administrator will have an additional option to set the owner of the course. For a teacher this option will not be visible and will automatically be set to the currently logged in user. The active button is convenient in cases where the course should exist already, but not yet visible for students. When set to inactive the course will not be visible for a student, but a teacher or TA of this course will be able to change course settings. An important part of the course creation is the schema part at the bottom. This option can be used to set the structure of the database when the student creates a new database and possibly populate the databases with preset data. There are four options to choose from:

- **No:** this option will give the student an empty database. There will be no tables or any preset data present.
- **Via text field:** Using this option will give the user an extra field where the PostgreSQL code can be inserted directly. This is mostly convenient for a small setup. Larger and more complex database structures can be setup in this way, but is not recommended.
- **Via file upload:** an existing sql dump can be uploaded with this method. Every newly created database by the student will have the information as setup inside of the sql dump.
- **Via schema transfer:** this option can be used to transfer the schema from an existing database. This option is convenient in case the teacher creates a new iteration of the same course every year. In this case a new course can be created with an already existing schema structure.

Student view

A teacher or administrator is presented with the following view when clicking the student view button at the top menu:
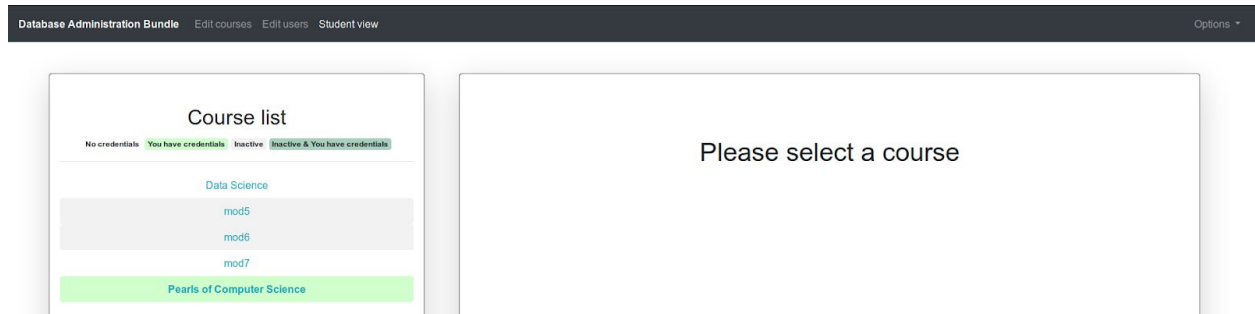

The view is split in two parts. On the left is an overview of all the courses a student can sign up for. On top of the list is an indication what different colors mean. The following list gives an explanation of the different colors:

- When the course has no color the user does not have a database yet for this course.
- When the course is light green the user already has a database for this course.
- When the course is dark green the user has a database for this course, but the course is not active. This can be convenient to test a database without actually presenting the course to the students yet.
- When the course is light grey the course is simply inactive and no database is active on the server under this username.

Any additional information about a database is presented in the right part of the screen.

When a user clicks a course without any color the following screen is presented.
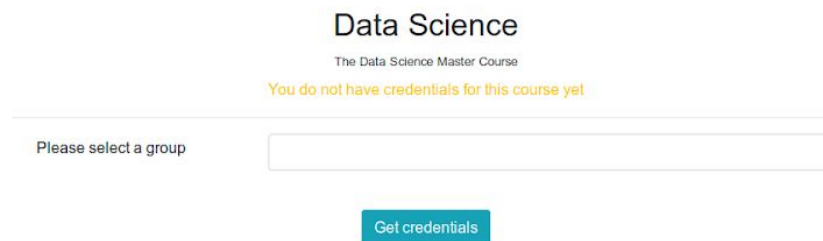
A student first has to provide a valid group number in the course. This group number will be used by the teacher or TA to assist during the course. A teacher or administrator can use any number.

After the user clicks "get credentials" DAB will generate a database with credentials for the user. The course will become light green in the left plane and an overview of the database will show up on the right. This overview will look similar to the following image:

This overview will give the user a few options and essential information about the database itself. The username and name of the database are identical and are shown in the first row with the password of the database in the next row. A CLI command to connect to the database is provided in the next row. Make sure that psql is installed before using this command.

A user has 3 different options below the essential information. The buttons will perform the following functions:

- **Delete database and release credentials:** Clicking this button will delete the database **including** all its content. The database will no longer exist on the server. Use this option with caution. A user will be asked for confirmation before proceeding.
- **Reset database:** The teacher will have setup a default structure of the database when creating the course. A user can revert back to the beginning state by clicking this button. All additional changes made by the user of the database will be gone, though the database will still exist with the default structure and content.
- **Get dump of database:** This button will create a sql dump file. This file will contain the complete structure and all the data of the database. This function can be used to locally recreate the database. Information stored on the local version will in no way synchronize any data with the database running on the server. All changes made locally will stay locally.

Options

Change password

In order the logout or change your password the option button in the top right corner can be used, as is seen in the following image:
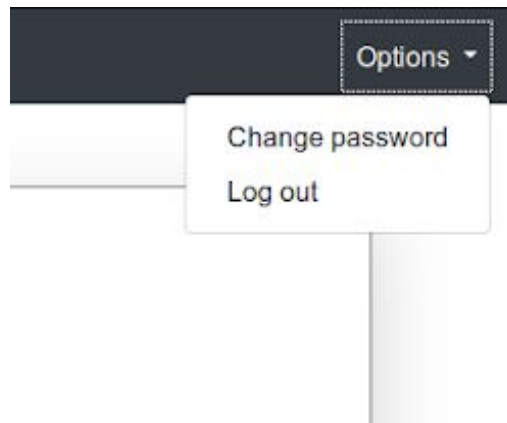
Depending on the type of user more options may be available here. Clicking the change password button will bring up a new screen similar to the following screen:
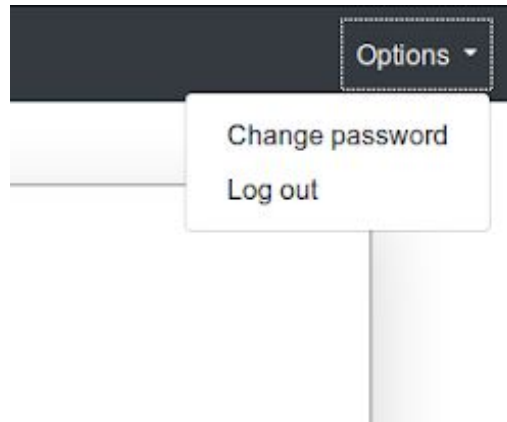

Simply follow the instructions on the screen and click "change password". A new password will be set for this user.

Log out

In order to log out the "log out" button can be used in the options drop down menu in the upper right corner, as is seen in the following image:

FAQ

What is DAB?

DAB is a database manager. Students can create a database for a course which is created by the teacher. The student can study the provided material in the course and can use the database as described by the teacher. By the use of the database the student will gain a deeper understanding of a database and how to use them.

Can any email address be used?

No, only an email provided by the university can be used in conjunction with DAB

Can I use the database for a production environment?

No, the database is only meant to be used inside of a course given at the University. A student is allowed to use a database for a personal project, however this is not advised. An administrator or teacher is able to delete any stored data at any given moment in time.

Who can use DAB?

DAB is meant for students and university personnel at the University of Twente.

I am no longer able to access my database and the database is no longer visible inside of DAB, what can I do?

Due to the lifecycle of a course a teacher can decide to delete the course including all the databases. Depending on the teacher the database may still be inside of a backup. If this is the case the teacher has the ability to put back the database (including all its content). Please, ask your teacher of the course in question for more information.

The database was not accessible during the night, but during the day it seems to work again. How is this possible?

*The server containing the database may be doing some administrative tasks during the night. Therefore it is advisable to **not depend on the database during the night.** Therefore, students should not make last minute alteration during the night.*

I am a student, how can I sign up?

*A student can access the site directly. On the site a "register here" button is provided to create a new account. The site will guide you through the process. **Only an email address provided by the university is allowed.***

I am a teacher at the University of Twente and would like to use DAB for my students, but don't have an account. how can I sign up?

There are 2 ways to obtain a teacher account within the DAB application. The first is to contact an administrator of DAB directly asking for an account (a valid University of Twente mail account is required). The second option is to create a student account on the URL where DAB is hosted and request teacher privileges from one of the DAB administrators (either by mail or in person).

Beside database management does DAB provide management over other pieces of software?

At this moment in time DAB only supports database management. Other pieces of software may be added in the future.

What type(s) of relational database management systems (RDMS) does DAB support?

*Right now only **PostgreSQL** is supported. Other types may be added in the future.*

What devices does DAB support?

DAB is a web application that can be used on both desktops and mobile phones. The website will automatically detect the type of device and scale to the screen size.