FAF.CS16.1 Fall 2020

Lab 7: Database Security

Handed out: Tuesday, October 27, 2020
Due: Tuesday, November 3, 2020 (20:15)

Database Security

Nowadays, many applications require sensitive information about their users to work properly. Users want to be sure that their data cannot be stolen or leaked and it is the job of the programmer to ensure that their data is stored securely. The task for this week's laboratory work is to configure a MongoDB database so that it can store sensitive data securely.

You will need to pre-populate a MongoDB database with some data. Some of the data you will keep in the database should be considered sensitive (e.g. a user's email), hence needs to be encrypted via 2-way encryption. After populating and securing the database, create an app that would be able to access the database and output on screen the decrypted version of the data stored. To summarize:

- Create a MongoDB database which would contain some secured sensitive data (protected via 2-way encryption);
- Create an application which would display the data contained in the database (both common data and the decrypted sensitive data);
- Make sure that the sensitive data can only be accessed via your application (i.e. it is secure).

Reporting

At the end of this lab, you will need to present your source code and a screen recording of the functionality that you have implemented. The links to your video and source code must be uploaded on Moodle, in the Submit Lab 7 assignment activity. Don't forget to make your code public on any hosting service of your choosing (e.g. Github, Bitbucket etc.). I wonder if anyone reads about this *readme* file (here's a tutorial on how to make a good one).

Grading

At the end of this lab you are expected to provide an application that would contain the features described in the previous chapters. Showing working features in a terminal or a GUI with only a subset of features and placeholder buttons is also acceptable, for a penalty. However, be aware that you'll still need to implement whatever you skipped for the following labs. What is not acceptable is *not providing anything on the day of the deadline*, so don't do that.

Good Luck!