Assignment 2

- Deadline Apr 18th

- 15 points

- Implementation of two services
  - Authentication/authorization
  - Master data

- Focus on interfaces (SOAP, REST, gRPC) and data flow between services

Auth service

- This service will be responsible for authenticating and logging users into the system. The following user groups (roles) are defined:
  - Administrator: can create and delete users and manage all types of data.
  - Secretary: can manage some data.
  - Manager: can submit optimization requests (batch jobs) and collect results.
- This service will be implemented with an in-memory cache (without persistent storage).

Auth service

- The service will expose an authentication API with the following functions:
  - A function that accepts username/password and, if correct, emits a simple token (containing user role and a random base-64 string).
  - A function for verifying that the token for a given user is still valid.

Master data service

- This service will be responsible for the metadata for the simulations and manage at least two data tables in a persistent data store:
  - Jobs: a table containing metadata information for each submitted simulation job (data fields: see PDF)
  - results: a table containing metadata information for the result of each job (data fields: see PDF)
- The service will expose an API for submitting jobs and fetching and updating data on running or done jobs.
- Only users of the user group *managers* and *administrators* are allowed to use this service. All other users and unauthenticated users will get an authorization error.