

Test report - Team #1

Unit tests

REST calls

All the REST endpoints have been thoroughly tested by hand. We've sent many different requests to all the REST methods using Postman to make sure everything works correctly. For example, we tried updating metadata with an empty object, an object with only one of the variables, an object with empty variable values, objects with zero to many tags, etc. All of these tests gave the intended result, namely that sending empty variable values will not alter the database and if only some variables are sent, it will update only those that were specified. The request also handles any amount of tags (as long as they exist). Another way of testing was trying to break the system by sending requests to a simulation with a non-existing id or wrongly formatted data. For instance, we tried sending incorrect JSON and non-numeric IDs. These errors all get handled correctly. Trying to select IDs that do not exist also does not break the system.

We repeated this process for all endpoints, validating the requests by hand.

Backend JUnit testing

We also wrote JUnit tests for all classes in the resources package. Because these classes represent the endpoints responsible for handling all requests, we can be sure that all requests to the backend work properly by testing these classes.

In TestAuthenticationResource, we test if a login works (cookie with session id is created), if a login with wrong credentials gets rejected and if creating a new user works.

In TestSimulationsResource, we test if getting all simulations returns a list of MetaData and if you can upload a zip file.

In TestSimulationResource, we test if you can get a simulation by ID, we test if we can update metadata (check if the uploaded metadata matches the one that gets stored in the database and variables not specified don't override anything) and we test all other methods to check that they return status code 200, return data if they should, and return status code 400 if an invalid ID is given.

System tests

The whole system has been tested by means of visual inspection. We tried all buttons on all pages in different orders, tried accessing pages without authorization, typing nonsense into text fields etc.

Login page

The login page works; The system can be entered with the right credentials, but not with wrong credentials. SQL injection is not possible.

Creating a new user works only if all fields are filled in with appropriate information. It checks if the email address is valid, if the passwords match, makes sure the username is not already taken and checks the specified master password.

If you wait until the authentication token expires, you cannot access any new pages or request any information.

Dashboard

All simulations in the database are shown in the simulations list and the list is filterable on all metadata that is shown in the list.

All graphs can be generated for the variables that are shown in the dropdown menu when making a graph. It works if you first select a simulation, then a graph type, and then a variable, but it also works if you select the graph type before the simulation. Editing chart appearance also works as intended, making it possible to edit the graph name, colours, names of the axis and the names of labels. It is also possible to add an extra dataset to the chart. Data can be used from either the same simulation, or from a different one.

All possible types of elements can be added to the report and the report can be either downloaded or printed. The reset report deletes all report contents.

Modification page

All metadata fields for a simulation can be edited, all fields except for the title can be left blank, but putting " " in as a value will give an error. All other symbols do work. Leaving the title blank gives an appropriate error message. Furthermore, tags can be created, and they can be selected or deselected to assign them accordingly to a selected simulation file.

New simulation files can be uploaded from zip, or from a folder. Selected files can be reset while editing metadata, as long as submit has not been pressed. Simulations can be deleted, asking for a confirmation first.