

API testing proposal

Assumption: REST API format/contract is defined and approved

Tools: Postman, Rest assured (can be selected other tools)

Test ordering:

- Functional testing - positive and negative scenarios
- Non functional testing - performance (other types can be added after requirements refining)

In order to perform E2E API testing we should perform multy step test flows

Positive scenarios:

	Steps	Expected result
1	Create an element with POST using valid parameters	Successful response code is received (2**)
2	Execute GET request with valid values for the newly created element	Successful response code is received (2**); Fields, values, format, headers are correct
3	Execute PUT request with valid parameters for the element	Successful response code is received (2**)
4	Execute GET request for the element with valid values	Successful response code is received (2**); All values of the element are updated accordingly
5	Execute PATCH request with valid parameters for couple of values for the same element	Successful response code is received (2**)
6	Execute GET request with valid values for the element again,	Successful response code is received (2**); Only expected values are updated, All other values stay the same
7	DELETE the element	Successful response code is received (2**)
8	Execute GET/PUT//PATCH request for the element again, with valid values	Coresponding response code is received (4**) with an expected message like "element not found"

Negative scenarios:

	Steps	Expected result
1	Try to create an element (POST) with empty, invaled parameters , with the same values of existing element (if it's not allowed according to the requirement);	Coresponding response code is received (4**); Element is not created

2	Perform GET request with empty, invalid parameters	Correct response code is received 404; Element not found
3	Perform DELETE/PUT/PATCH/ request with invalid parameters, invalid format of values, empty parameters	Correct response code is received 403. No element is updated or deleted
4	Send any request with invalid headers (key or values)	Corresponding response is received
5	Try to send a request with values containing more than allowed characters for several fields	Corresponding response is received
6	Try to execute requests without authorization/permission	Corresponding response is received
7	Send a request with empty values	Corresponding response is received
8	Send request with loaded body	Monitor how the API platform behaves

Checking Performance

	Step	Expected result
1	Execute requests with valid parameters	A response is received within a reasonable time
2	Execute requests with invalid parameters	A response is received within a reasonable time
3	Load many requests considering allowed amount	Monitor how the API platform behaves
4	Load many requests more than allowed amount	Monitor how the API platform behaves