SLM-Study-Project

A group project for the topic of software-lifecycle-management.
The goal is to implement a very simple REST API in JAVA, but configure and manage a whole CI/CD structure around the
project, as well as using proper development procedures in git. (User-Stories, Requirements, etc.)

Project-prompt

> We are a small hydro-power electricity supplier near Vienna. Our customers expect electricity around the clock with a
> very high service level agreement. It is easy to derive that service times are very important to us. Huge monitors were
> installed that should show the current service message.
>
> "Everything operates as expected" is the default message. But a service operator can set the message manually to
> something else (e.g., "Service checks: No power until 5:00 pm"). A service operator can also reset the message to its
> default message.

Project-Team

- @HackXIt
- @thorinaboenke
- @funkeydow

REST API Goals

- [x] The service should be able to manage a centrally stored message.
- [x] The service should be able to deliver the message to a client.
- [x] The service should be able to set *it* to a specific message. (it = centrally stored message)
- [x] The service should be able to reset the message.

General Project Requirements

- [x] Documentation of "the whole process" regarding the project
- [x] Documentation of "the user stories" (i.e. have user-stories in general)
- [x] Documentation of "the usage of the software" (i.e. manual of the API)
- [x] The repository URL needs to be documented and be publicy viewable

Grading criteria

- 20% Documentations of the process
- 15% Requirement Definition (User Stories)
- 15% Correct Status / Linking / Branching (Kanban, git)
- 15% Implementation
- 15% Testing

- 10% Continuous Integration (Pipeline Testing)
- 10% Continuous Delivery (Pipeline Artifact)

Example Reference

API-Path	Example-Result
/api/message	"Everything works as expected"
/api/message/set? m=Service+checks:+No+power+until+5:00+pm	"ok"
/api/message	"Service checks: No power until 5:00 pm"
/api/message/reset	"ok"
/api/message	"Everything works as expected"

Our project development

In the beginning of our project we sat down in a meeting and translated our given project requirements into user-stories.

The given project requirements read as follows:

> Use GitHub for the project and follow the correct DevOps procedure. Use a Kanban board to manage your User Stories and use a git branching model (preferable gitflow) to manage your code. Track your development process by updating your Kanban board and write at least one unit tests for every requirement. A Continuous Integration pipeline that produces the finished software artifact should be implemented as well.
>
> Document
>
> - the whole process
> - the user stories
> - **the repository URL (it has to be public)**
> - the usage of the software
>
> in a PDF file with screenshots and explanatory text. Submit the code (including the .git folder) as a .zip file.
>
> You can use external resources as long as you mark them: " // taken from: "

User stories

With the project requirements in mind, we wrote down the following 14 User stories:

- As a maintainer, I want to avoid unnecessary binary files in the repository
- As a developer, I want the project to be automatically built and tested on each uploaded commit
- As a student, I want to document the project in markdown files
- As a lecturer, I want to check the documentation of the project
- As a developer, I want to see the latest test status of the package
- As a user, I want to receive the latest stable package via the main-branch
- ~~As a developer, I want to test and then implement the API path `/configure`~~
- ~~As a tester, I want to have a simple page to configure the maintenance message~~
- As a user, I want to call `/api/message/set` on the API to configure the current maintenance message
- As a developer, I want to test and then implement the API path `/api/message/set`
- As a developer, I want to test and then implement `/api/message/reset`
- As a developer, I want to test and then implement `/api/message`
- As a user, I want to call `/api/message/reset` on the API to reset the maintenance message
- As a user, I want to call `/api/message` on the API to receive the current maintenance message

Please note:
We scratched 2 of our user stories as they were too ambitious and irrelevant to the grading of the project.

When writing those user-stories, we tried to stay close to a real life project scenario, assuming that all of those features are much more work, than they actually were.
We also used specific wording in the summary itself, to reflect our test-driven-development process, which we agreed upon early in the project.

There's more info about that process in the *Testing* section of this documentation.

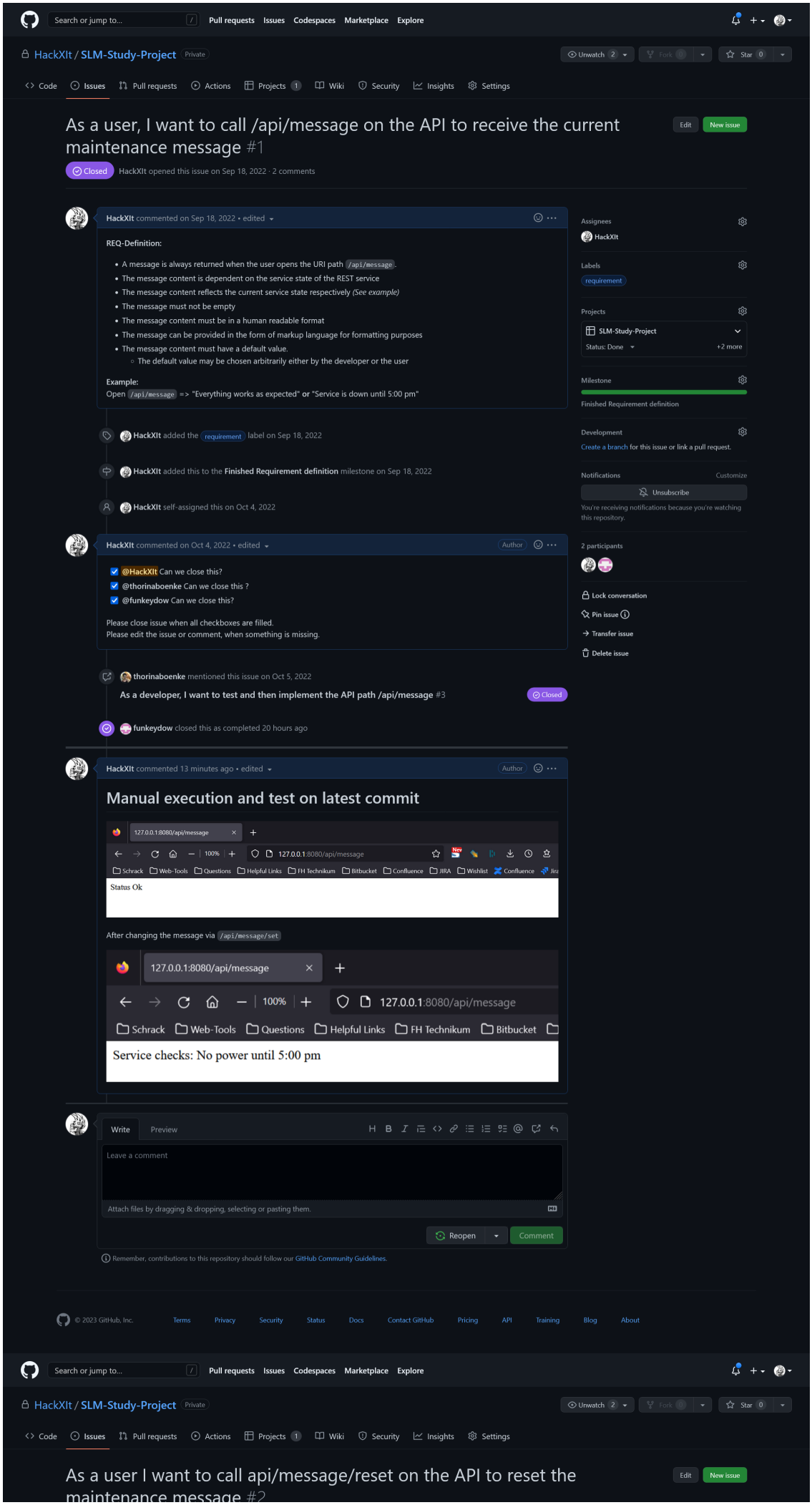
Obviously, there is a lot more we could have done to reflect a real-life scenario, but we decided to keep it at that. Just to mention, here are a few examples of what we purposefully didn't do:

(to avoid unnecessary strain on our student life)

- Write acceptance criteria for all of our user-stories *(Some of them have some sort of requirement definition)*
- Add milestones to the project
- Add individual tasks corresponding to user-stories for implementation

To document what was done in our development, we decided on submitting screenshots of the final state of all those user-stories.

Final state of user-stories


Search or jump to...
Pull requests
Issues
Codespaces
Marketplace
Explore
HackXIt / SLM-Study-Project
Private
Unwatch 2
Fork 0
Star 0
Code
Issues
Pull requests
Actions
Projects 1
Wiki
Security
Insights
Settings
As a user, I want to call /api/message on the API to receive the current maintenance message #1
Edit
New issue
Closed
HackXIt opened this issue on Sep 18, 2022 · 2 comments
HackXIt commented on Sep 18, 2022 • edited
REQ-Definition:
A message is always returned when the user opens the URI path /api/message.
The message content is dependent on the service state of the REST service
The message content reflects the current service state respectively (See example)
The message must not be empty
The message content must be in a human readable format
The message can be provided in the form of markup language for formatting purposes
The message content must have a default value.
The default value may be chosen arbitrarily either by the developer or the user
Example:
Open /api/message => "Everything works as expected" or "Service is down until 5:00 pm"
HackXIt added the requirement label on Sep 18, 2022
HackXIt added this to the Finished Requirement definition milestone on Sep 18, 2022
HackXIt self-assigned this on Oct 4, 2022
HackXIt commented on Oct 4, 2022 • edited
Author
@HackXIt Can we close this?
@thorinaboenke Can we close this ?
@funkeydow Can we close this?
Please close issue when all checkboxes are filled.
Please edit the issue or comment, when something is missing.
thorinaboenke mentioned this issue on Oct 5, 2022
As a developer, I want to test and then implement the API path /api/message #3
Closed
funkeydow closed this as completed 20 hours ago
HackXIt commented 13 minutes ago • edited
Author
Manual execution and test on latest commit
127.0.0.1:8080/api/message
127.0.0.1:8080/api/message
Schrack
Web-Tools
Questions
Helpful Links
FH Technikum
Bitbucket
Confluence
JIRA
Wishlist
Confluence
Status Ok
After changing the message via /api/message/set
127.0.0.1:8080/api/message
127.0.0.1:8080/api/message
Schrack
Web-Tools
Questions
Helpful Links
FH Technikum
Bitbucket
Service checks: No power until 5:00 pm
Write
Preview
Leave a comment
Attach files by dragging & dropping, selecting or pasting them.
Reopen
Comment
Remember, contributions to this repository should follow our GitHub Community Guidelines.
Assignees
HackXIt
Labels
requirement
Projects
SLM-Study-Project
Status: Done
+2 more
Milestone
Finished Requirement definition
Development
Create a branch for this issue or link a pull request.
Notifications
Customize
Unsubscribe
You're receiving notifications because you're watching this repository.
2 participants
Lock conversation
Pin issue
Transfer issue
Delete issue
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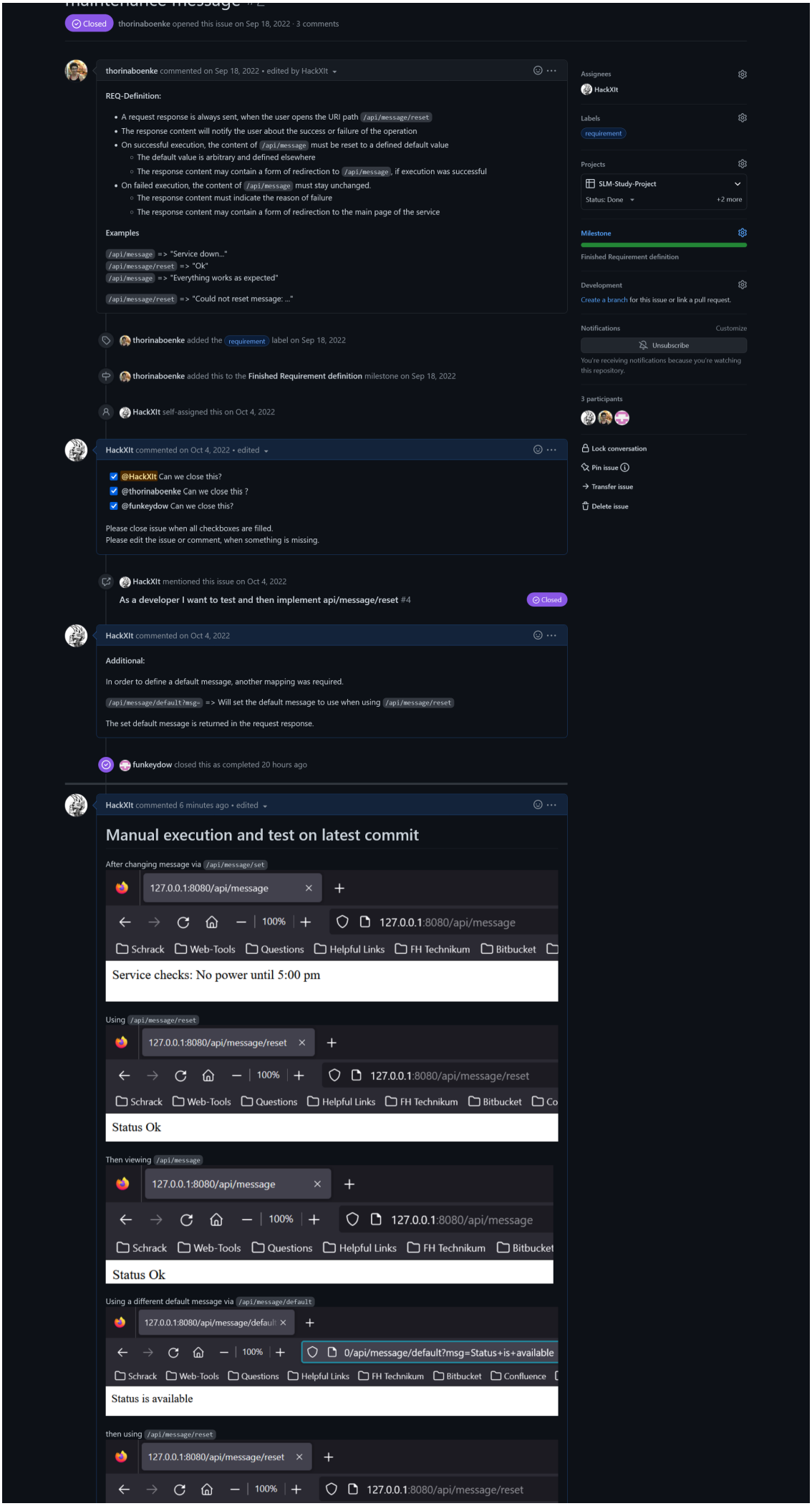
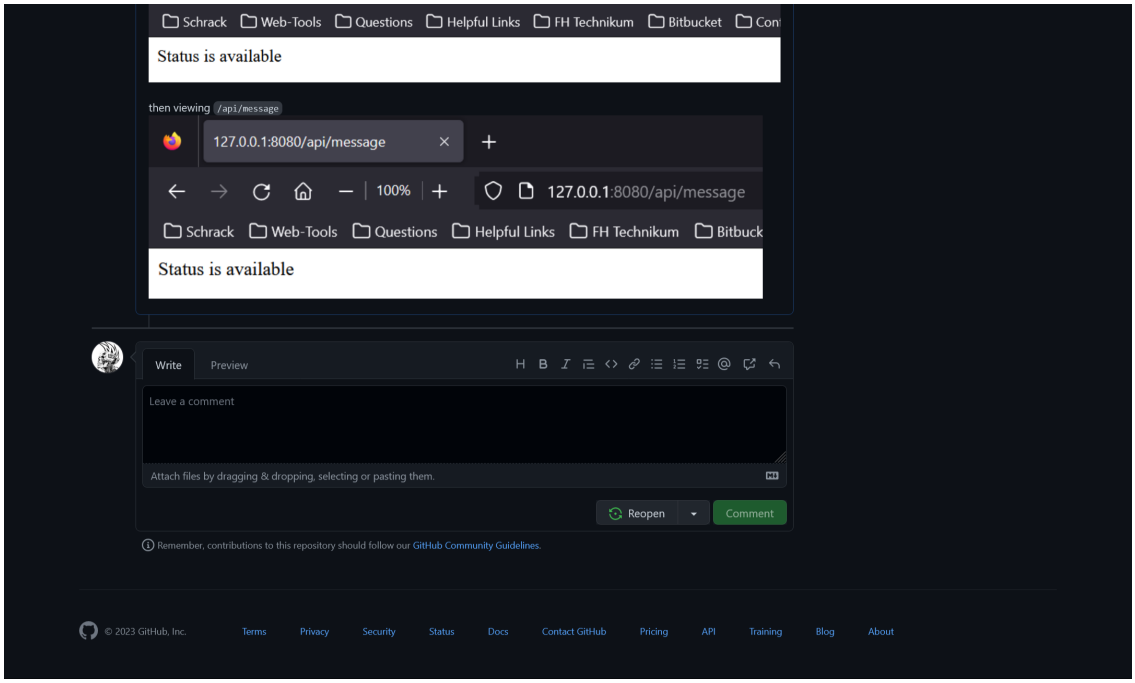
Marketplace
Explore
HackXIt / SLM-Study-Project
Private
Unwatch 2
Fork 0
Star 0
Code
Issues
Pull requests
Actions
Projects 1
Wiki
Security
Insights
Settings
As a user I want to call api/message/reset on the API to reset the maintenance message #2
Edit
New issue

1.

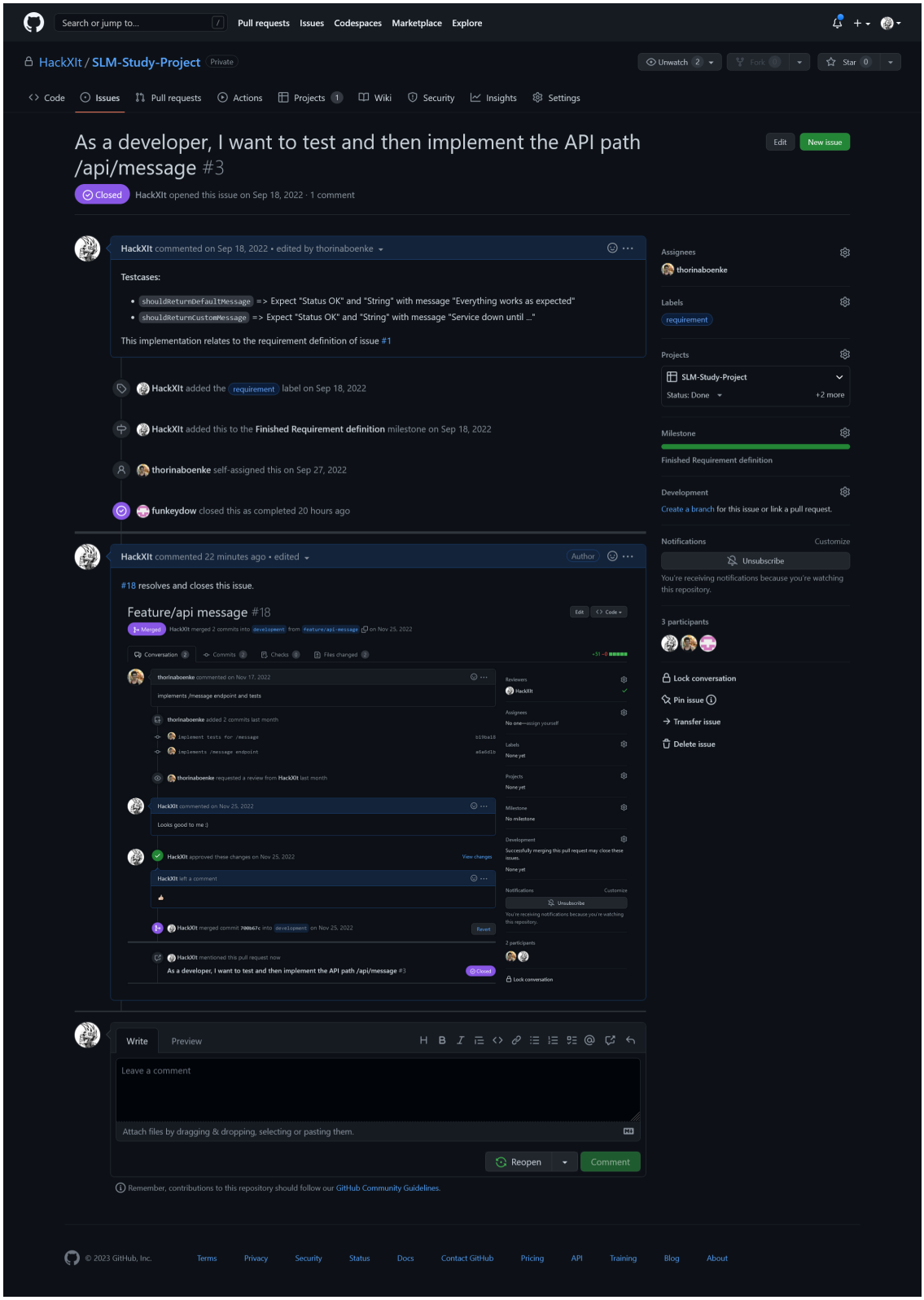
2.


Closed
thorinaboenke opened this issue on Sep 18, 2022 · 3 comments
thorinaboenke commented on Sep 18, 2022 • edited by HackXIt
REQ-Definition:
A request response is always sent, when the user opens the URI path /api/message/reset
The response content will notify the user about the success or failure of the operation
On successful execution, the content of /api/message must be reset to a defined default value
The default value is arbitrary and defined elsewhere
The response content may contain a form of redirection to /api/message, if execution was successful
On failed execution, the content of /api/message must stay unchanged.
The response content must indicate the reason of failure
The response content may contain a form of redirection to the main page of the service
Examples
/api/message => "Service down..."
/api/message/reset => "Ok"
/api/message => "Everything works as expected"
/api/message/reset => "Could not reset message: ..."
thorinaboenke added the requirement label on Sep 18, 2022
thorinaboenke added this to the Finished Requirement definition milestone on Sep 18, 2022
HackXIt self-assigned this on Oct 4, 2022
HackXIt commented on Oct 4, 2022 • edited
@HackXIt Can we close this?
@thorinaboenke Can we close this ?
@funkeydow Can we close this?
Please close issue when all checkboxes are filled.
Please edit the issue or comment, when something is missing.
HackXIt mentioned this issue on Oct 4, 2022
As a developer I want to test and then implement api/message/reset #4
Closed
HackXIt commented on Oct 4, 2022
Additional:
In order to define a default message, another mapping was required.
/api/message/default?msg= => Will set the default message to use when using /api/message/reset
The set default message is returned in the request response.
funkeydow closed this as completed 20 hours ago
HackXIt commented 6 minutes ago • edited
Manual execution and test on latest commit
After changing message via /api/message/set
127.0.0.1:8080/api/message
127.0.0.1:8080/api/message
Schrack Web-Tools Questions Helpful Links FH Technikum Bitbucket
Service checks: No power until 5:00 pm
Using /api/message/reset
127.0.0.1:8080/api/message/reset
127.0.0.1:8080/api/message/reset
Schrack Web-Tools Questions Helpful Links FH Technikum Bitbucket
Status Ok
Then viewing /api/message
127.0.0.1:8080/api/message
127.0.0.1:8080/api/message
Schrack Web-Tools Questions Helpful Links FH Technikum Bitbucket
Status Ok
Using a different default message via /api/message/default
127.0.0.1:8080/api/message/default
0/api/message/default?msg=Status+is+available
Schrack Web-Tools Questions Helpful Links FH Technikum Bitbucket Confluence
Status is available
then using /api/message/reset
127.0.0.1:8080/api/message/reset
127.0.0.1:8080/api/message/reset
Assignees
HackXIt
Labels
requirement
Projects
SLM-Study-Project
Status: Done
+2 more
Milestone
Finished Requirement definition
Development
Create a branch for this issue or link a pull request.
Notifications
Customize
Unsubscribe
You're receiving notifications because you're watching this repository.
3 participants
Lock conversation
Pin issue
Transfer issue
Delete issue



Remember, contributions to this repository should follow our GitHub Community Guidelines.

3.


Search or jump to...
Pull requests
Issues
Codespaces
Marketplace
Explore
HackXIt / SLM-Study-Project
Private
Unwatch 2
Fork 0
Star 0
Code
Issues
Pull requests
Actions
Projects 1
Wiki
Security
Insights
Settings
As a developer, I want to test and then implement the API path /api/message #3
Edit
New issue
Closed
HackXIt opened this issue on Sep 18, 2022 · 1 comment
HackXIt commented on Sep 18, 2022 • edited by thorinaboenke
Testcases:
shouldReturnDefaultMessage => Expect "Status OK" and "String" with message "Everything works as expected"
shouldReturnCustomMessage => Expect "Status OK" and "String" with message "Service down until ..."
This implementation relates to the requirement definition of issue #1
HackXIt added the requirement label on Sep 18, 2022
HackXIt added this to the Finished Requirement definition milestone on Sep 18, 2022
thorinaboenke self-assigned this on Sep 27, 2022
funkeydow closed this as completed 20 hours ago
HackXIt commented 22 minutes ago • edited
Author
#18 resolves and closes this issue.
Feature/api message #18
Edit
Code
Merged
Conversation
Commits
Checks
Files changed
thorinaboenke commented on Nov 17, 2022
implements /message endpoint and tests
thorinaboenke added 2 commits last month
implement tests for /message
implements /message endpoint
thorinaboenke requested a review from HackXIt last month
HackXIt commented on Nov 25, 2022
Looks good to me :)
HackXIt approved these changes on Nov 25, 2022
View changes
HackXIt left a comment
HackXIt merged commit into development on Nov 25, 2022
Revert
HackXIt mentioned this pull request now
As a developer, I want to test and then implement the API path /api/message #3
Closed
Lock conversation
Assignees
thorinaboenke
Labels
requirement
Projects
SLM-Study-Project
Status: Done
+2 more
Milestone
Finished Requirement definition
Development
Create a branch for this issue or link a pull request.
Notifications
Customize
Unsubscribe
You're receiving notifications because you're watching this repository.
3 participants
Lock conversation
Pin issue
Transfer issue
Delete issue
Write
Preview
Leave a comment
Attach files by dragging & dropping, selecting or pasting them.
Reopen
Comment
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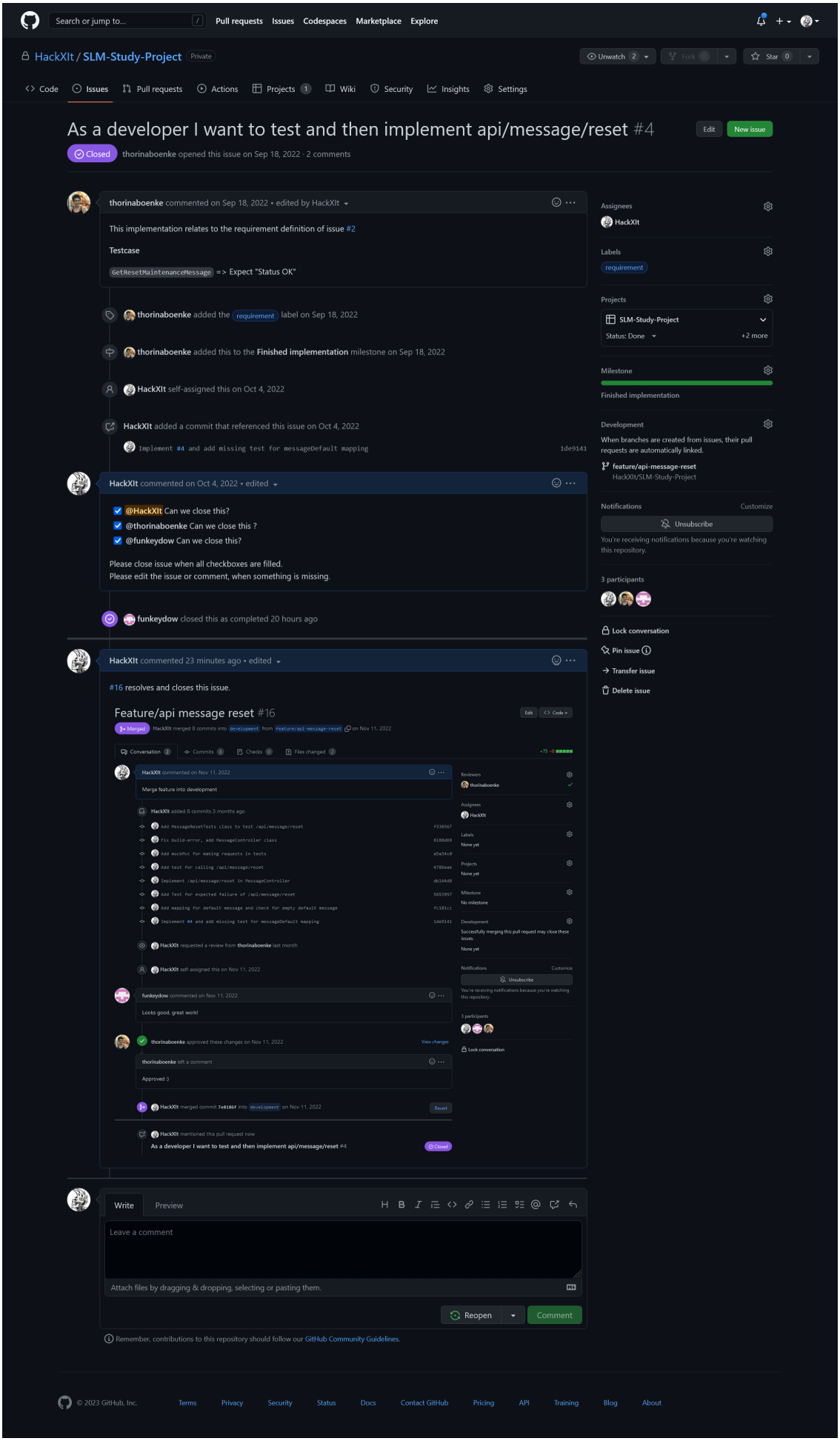
4.


Search or jump to...
Pull requests
Issues
Codespaces
Marketplace
Explore
HackXIt / SLM-Study-Project
Private
Unwatch 2
Fork 0
Star 0
Code
Issues
Pull requests
Actions
Projects 1
Wiki
Security
Insights
Settings
As a developer I want to test and then implement api/message/reset #4
Edit
New issue
Closed
thorinaboenke opened this issue on Sep 18, 2022 · 2 comments
thorinaboenke commented on Sep 18, 2022 • edited by HackXIt
This implementation relates to the requirement definition of issue #2
Testcase
GetResetMaintenanceMessage => Expect "Status OK"
thorinaboenke added the requirement label on Sep 18, 2022
thorinaboenke added this to the Finished implementation milestone on Sep 18, 2022
HackXIt self-assigned this on Oct 4, 2022
HackXIt added a commit that referenced this issue on Oct 4, 2022
Implement #4 and add missing test for messageDefault mapping
1de9141
HackXIt commented on Oct 4, 2022 • edited
@HackXIt Can we close this?
@thorinaboenke Can we close this ?
@funkeydow Can we close this?
Please close issue when all checkboxes are filled.
Please edit the issue or comment, when something is missing.
funkeydow closed this as completed 20 hours ago
HackXIt commented 23 minutes ago • edited
#16 resolves and closes this issue.
Feature/api message reset #16
Merged
Conversation
Commits
Checks
Files changed
Merge feature into development
Looks good, great work!
thorinaboenke approved these changes on Nov 11, 2022
Approved :)
As a developer I want to test and then implement api/message/reset #4
Assignees
HackXIt
Labels
requirement
Projects
SLM-Study-Project
Status: Done
+2 more
Milestone
Finished implementation
Development
When branches are created from issues, their pull requests are automatically linked.
feature/api-message-reset
HackXIt/SLM-Study-Project
Notifications
Customize
Unsubscribe
You're receiving notifications because you're watching this repository.
3 participants
Lock conversation
Pin issue
Transfer issue
Delete issue
Write
Preview
Leave a comment
Attach files by dragging & dropping, selecting or pasting them.
Reopen
Comment
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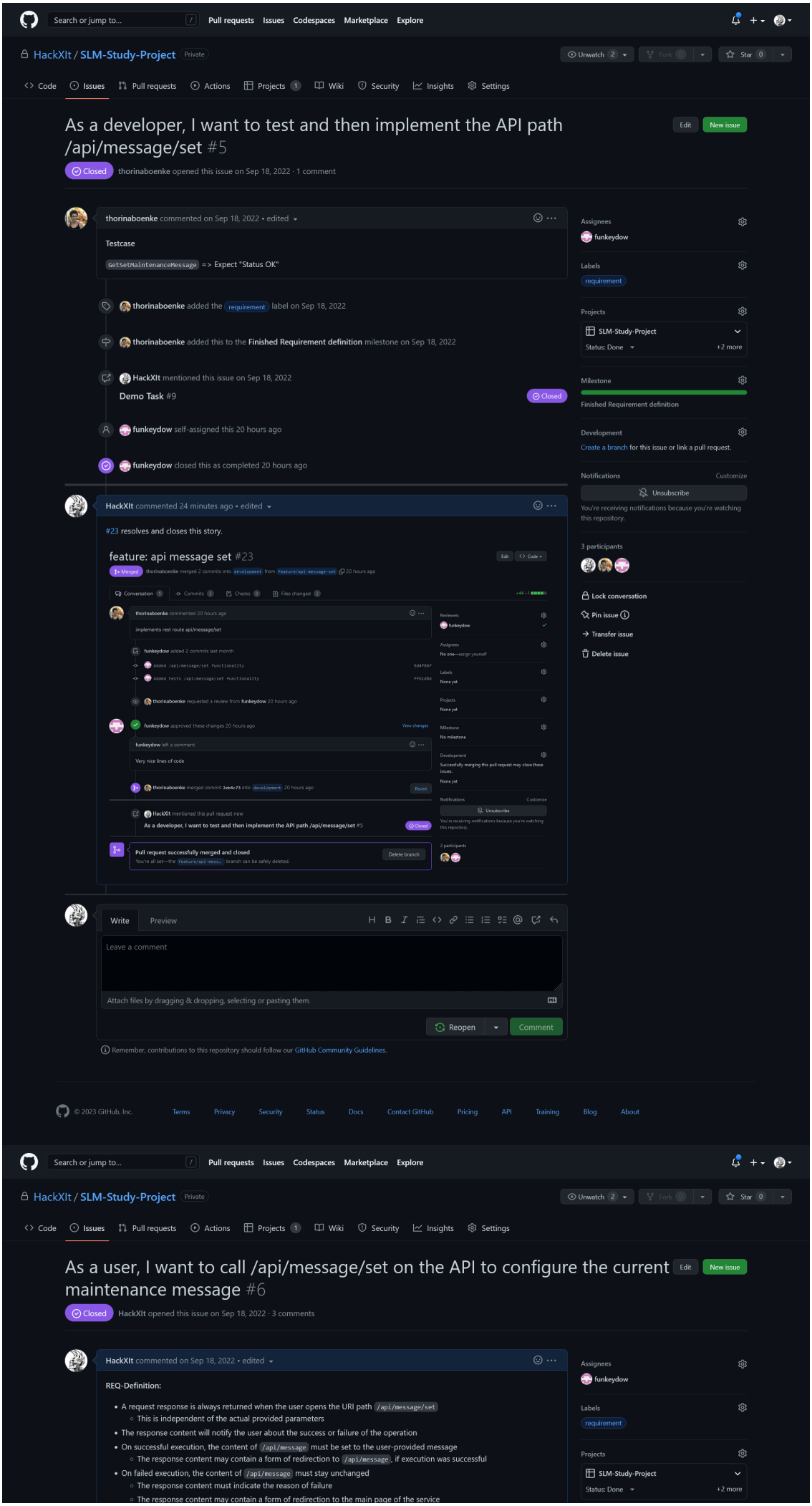
5.


Search or jump to...
Pull requests
Issues
Codespaces
Marketplace
Explore
HackXIt / SLM-Study-Project
Private
Unwatch 2
Fork 0
Star 0
Code
Issues
Pull requests
Actions
Projects 1
Wiki
Security
Insights
Settings
As a developer, I want to test and then implement the API path /api/message/set #5
Edit
New issue
Closed
thorinaboenke opened this issue on Sep 18, 2022 · 1 comment
thorinaboenke commented on Sep 18, 2022 • edited
Testcase
GetSetMaintenanceMessage => Expect "Status OK"
thorinaboenke added the requirement label on Sep 18, 2022
thorinaboenke added this to the Finished Requirement definition milestone on Sep 18, 2022
HackXIt mentioned this issue on Sep 18, 2022
Demo Task #9
Closed
funkeydow self-assigned this 20 hours ago
funkeydow closed this as completed 20 hours ago
HackXIt commented 24 minutes ago • edited
#23 resolves and closes this story.
feature: api message set #23
Merged
implements rest route api/message/set
Very nice lines of code
As a developer, I want to test and then implement the API path /api/message/set #5
Pull request successfully merged and closed
Delete branch
Assignees
funkeydow
Labels
requirement
Projects
SLM-Study-Project
Status: Done
+2 more
Milestone
Finished Requirement definition
Development
Create a branch for this issue or link a pull request.
Notifications
Customize
Unsubscribe
You're receiving notifications because you're watching this repository.
3 participants
Lock conversation
Pin issue
Transfer issue
Delete issue
Write
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Leave a comment
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HackXIt / SLM-Study-Project
Private
Unwatch 2
Fork 0
Star 0
Code
Issues
Pull requests
Actions
Projects 1
Wiki
Security
Insights
Settings
As a user, I want to call /api/message/set on the API to configure the current maintenance message #6
Edit
New issue
Closed
HackXIt opened this issue on Sep 18, 2022 · 3 comments
HackXIt commented on Sep 18, 2022 • edited
REQ-Definition:
A request response is always returned when the user opens the URI path /api/message/set
This is independent of the actual provided parameters
The response content will notify the user about the success or failure of the operation
On successful execution, the content of /api/message must be set to the user-provided message
The response content may contain a form of redirection to /api/message, if execution was successful
On failed execution, the content of /api/message must stay unchanged
The response content must indicate the reason of failure
The response content may contain a form of redirection to the main page of the service
Assignees
funkeydow
Labels
requirement
Projects
SLM-Study-Project
Status: Done
+2 more

6.

- The response content must allow the user to change his initial request to try again
- The user-provided message must be checked before setting the message
- The amount of characters in the user-provided message must be limited
  - The limit is arbitrary and defined elsewhere
  - The limit must not be chosen by the user
  - The limit must not be 0
  - The limit must be greater than the amount of characters in the default value of `/api/message`
- The characters in the user-provided message must be encoded for proper usage in the REST service
- The available character-set of the user-provided message must be limited
  - A complete definition of the available character-set is omitted and defined elsewhere
  - The available character-set is oriented around the ASCII table, but may provide more characters if appropriate or necessary
  - The user must be able to use characters from the English alphabet
  - The user must be able to use characters for punctuation marks
  - Invalid characters must fail the execution
  - A provided input-mechanism for the user must not allow invalid characters to be used
  - The user should be informed about the unavailability of characters when they are used

Example:

- `/api/message/set?m=Service+checks:+No+power+until+5:00+pm` => Status OK
- *more examples to-be-defined*

Milestone
Finished Requirement definition

Development
Create a branch for this issue or link a pull request.

Notifications Customize
Unsubscribe
You're receiving notifications because you're watching this repository.

2 participants

Lock conversation
Pin issue
Transfer issue
Delete issue

HackXIt added the requirement label on Sep 18, 2022

HackXIt added this to the **Finished Requirement definition** milestone on Sep 18, 2022

HackXIt self-assigned this on Oct 4, 2022

HackXIt commented on Oct 4, 2022 • edited — Author

- [x] @HackXIt Can we close this?
- [x] @thorinaboenke Can we close this ?
- [x] @funkeydow Can we close this?

Please close issue when all checkboxes are filled.
Please edit the issue or comment, when something is missing.

funkeydow assigned **funkeydow** and unassigned **HackXIt** 20 hours ago

funkeydow closed this as completed 20 hours ago

HackXIt commented 27 minutes ago — Author

Oh boy... I sure had some *"definition fun"* here.

The requirement definition here is exemplary, even though it's a bad example in my personal opinion.

We did not implement the feature as stated in this user story.

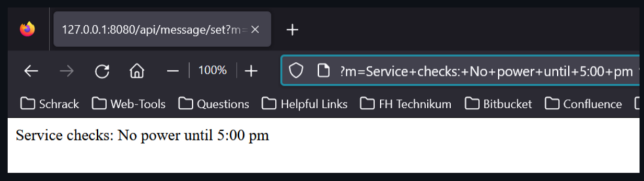
Instead, we concluded it will be enough to stick to the original requirements for the project:

> Project
>
> A team of max 3 members should implement a REST-based application in Java (using Spring Boot). The service should be able to manage a centrally stored message. It should be able to
>
> ```
> deliver the message to a client
> set it to a specific message
> reset the message
> ```
>
> using its API.

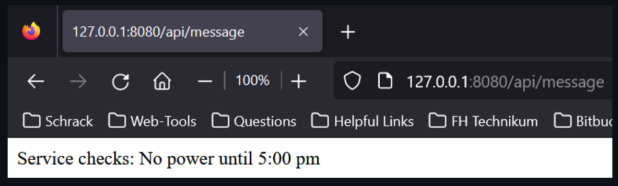
HackXIt commented 4 minutes ago — Author

Manual execution and test on latest commit

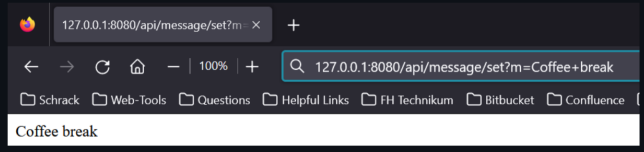
Using `/api/message/set`:



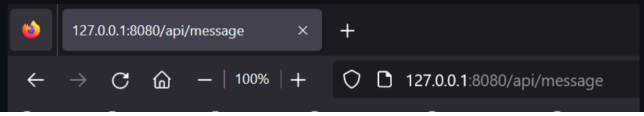
Viewing `/api/message`



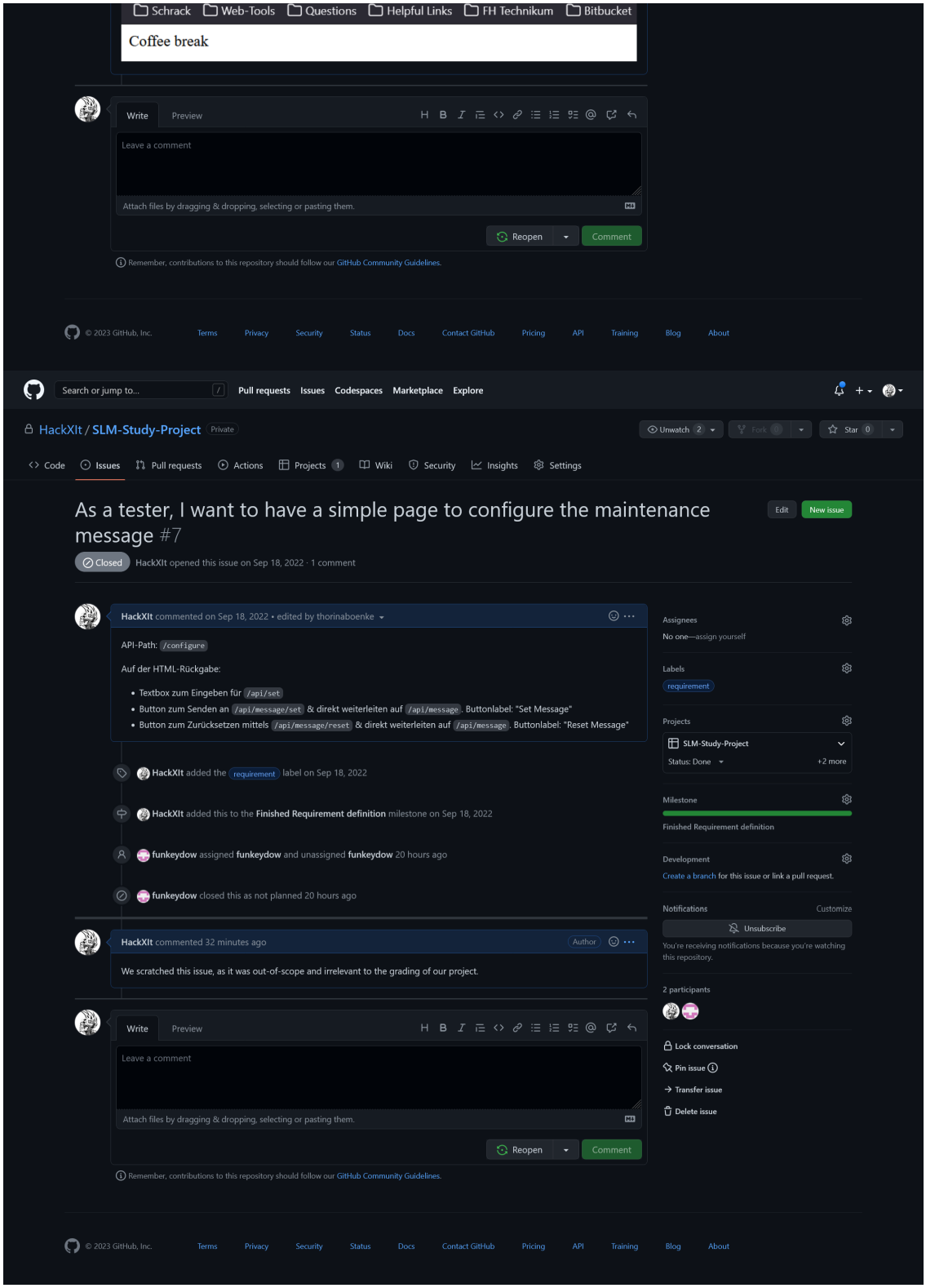
Retrying with different message:



Viewing `/api/message`



7.


Schrack
Web-Tools
Questions
Helpful Links
FH Technikum
Bitbucket
Coffee break
Write
Preview
Leave a comment
Attach files by dragging & dropping, selecting or pasting them.
Reopen
Comment
Remember, contributions to this repository should follow our GitHub Community Guidelines.
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API
Training
Blog
About
Search or jump to...
Pull requests
Issues
Codespaces
Marketplace
Explore
HackXIt / SLM-Study-Project
Private
Unwatch 2
Fork 0
Star 0
Code
Issues
Pull requests
Actions
Projects 1
Wiki
Security
Insights
Settings
As a tester, I want to have a simple page to configure the maintenance message #7
Edit
New issue
Closed
HackXIt opened this issue on Sep 18, 2022 · 1 comment
HackXIt commented on Sep 18, 2022 • edited by thorinaboenke
API-Path: /configure
Auf der HTML-Rückgabe:
Textbox zum Eingeben für /api/set
Button zum Senden an /api/message/set & direkt weiterleiten auf /api/message. Buttonlabel: "Set Message"
Button zum Zurücksetzen mittels /api/message/reset & direkt weiterleiten auf /api/message. Buttonlabel: "Reset Message"
HackXIt added the requirement label on Sep 18, 2022
HackXIt added this to the Finished Requirement definition milestone on Sep 18, 2022
funkeydow assigned funkeydow and unassigned funkeydow 20 hours ago
funkeydow closed this as not planned 20 hours ago
HackXIt commented 32 minutes ago
Author
We scratched this issue, as it was out-of-scope and irrelevant to the grading of our project.
Write
Preview
Leave a comment
Attach files by dragging & dropping, selecting or pasting them.
Reopen
Comment
Remember, contributions to this repository should follow our GitHub Community Guidelines.
Assignees
No one—assign yourself
Labels
requirement
Projects
SLM-Study-Project
Status: Done
+2 more
Milestone
Finished Requirement definition
Development
Create a branch for this issue or link a pull request.
Notifications
Customize
Unsubscribe
You're receiving notifications because you're watching this repository.
2 participants
Lock conversation
Pin issue
Transfer issue
Delete issue
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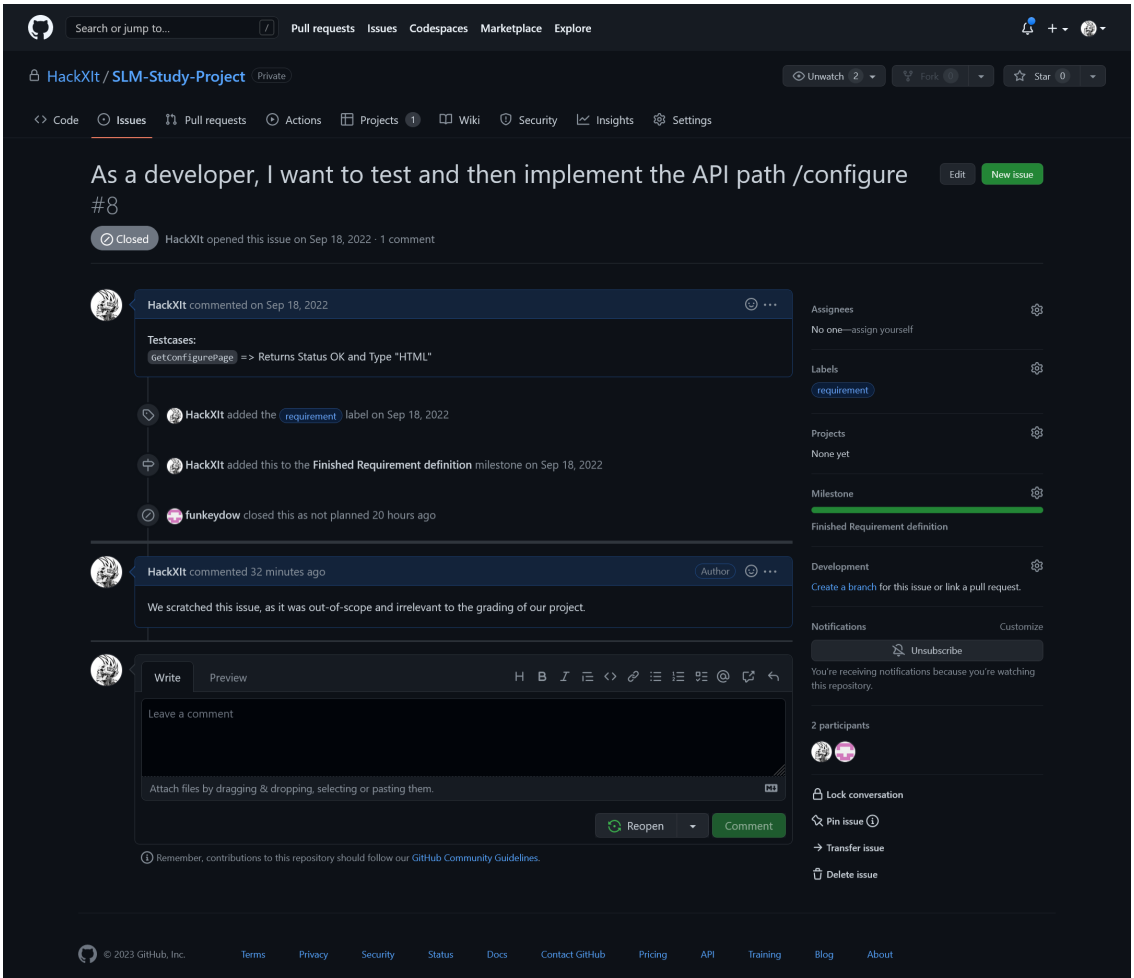
Privacy
Security
Status
Docs
Contact GitHub
Pricing
API
Training
Blog
About

8.


Search or jump to...
Pull requests
Issues
Codespaces
Marketplace
Explore
HackXIt / SLM-Study-Project
Private
Unwatch 2
Fork 0
Star 0
Code
Issues
Pull requests
Actions
Projects 1
Wiki
Security
Insights
Settings
As a developer, I want to test and then implement the API path /configure #8
Edit
New issue
Closed
HackXIt opened this issue on Sep 18, 2022 · 1 comment
HackXIt commented on Sep 18, 2022
Testcases:
GetConfigurePage => Returns Status OK and Type "HTML"
HackXIt added the requirement label on Sep 18, 2022
HackXIt added this to the Finished Requirement definition milestone on Sep 18, 2022
funkeydow closed this as not planned 20 hours ago
HackXIt commented 32 minutes ago
Author
We scratched this issue, as it was out-of-scope and irrelevant to the grading of our project.
Write
Preview
Leave a comment
Attach files by dragging & dropping, selecting or pasting them.
Reopen
Comment
Remember, contributions to this repository should follow our GitHub Community Guidelines.
Assignees
No one—assign yourself
Labels
requirement
Projects
None yet
Milestone
Finished Requirement definition
Development
Create a branch for this issue or link a pull request.
Notifications
Customize
Unsubscribe
You're receiving notifications because you're watching this repository.
2 participants
Lock conversation
Pin issue
Transfer issue
Delete issue
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Docs
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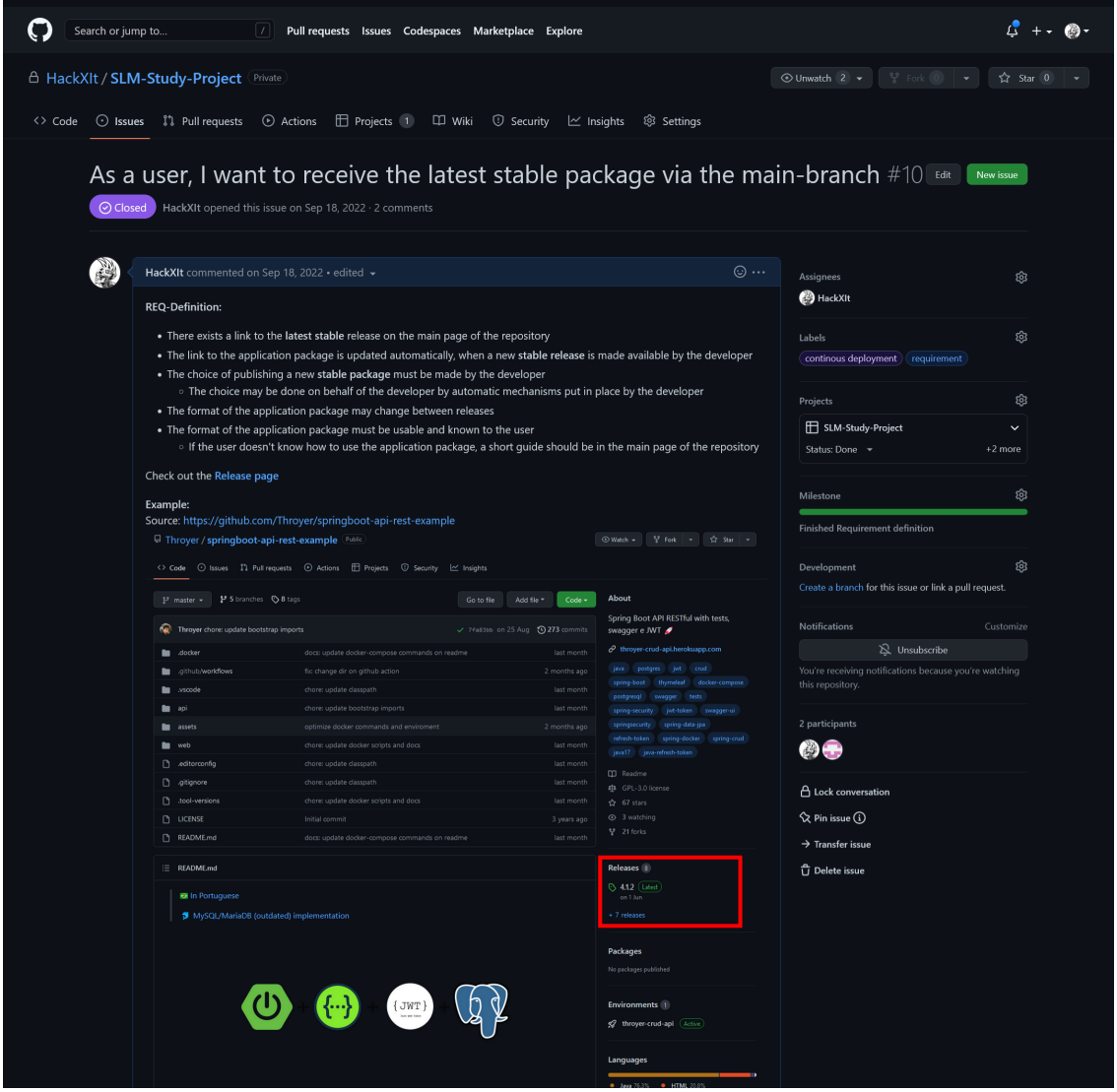
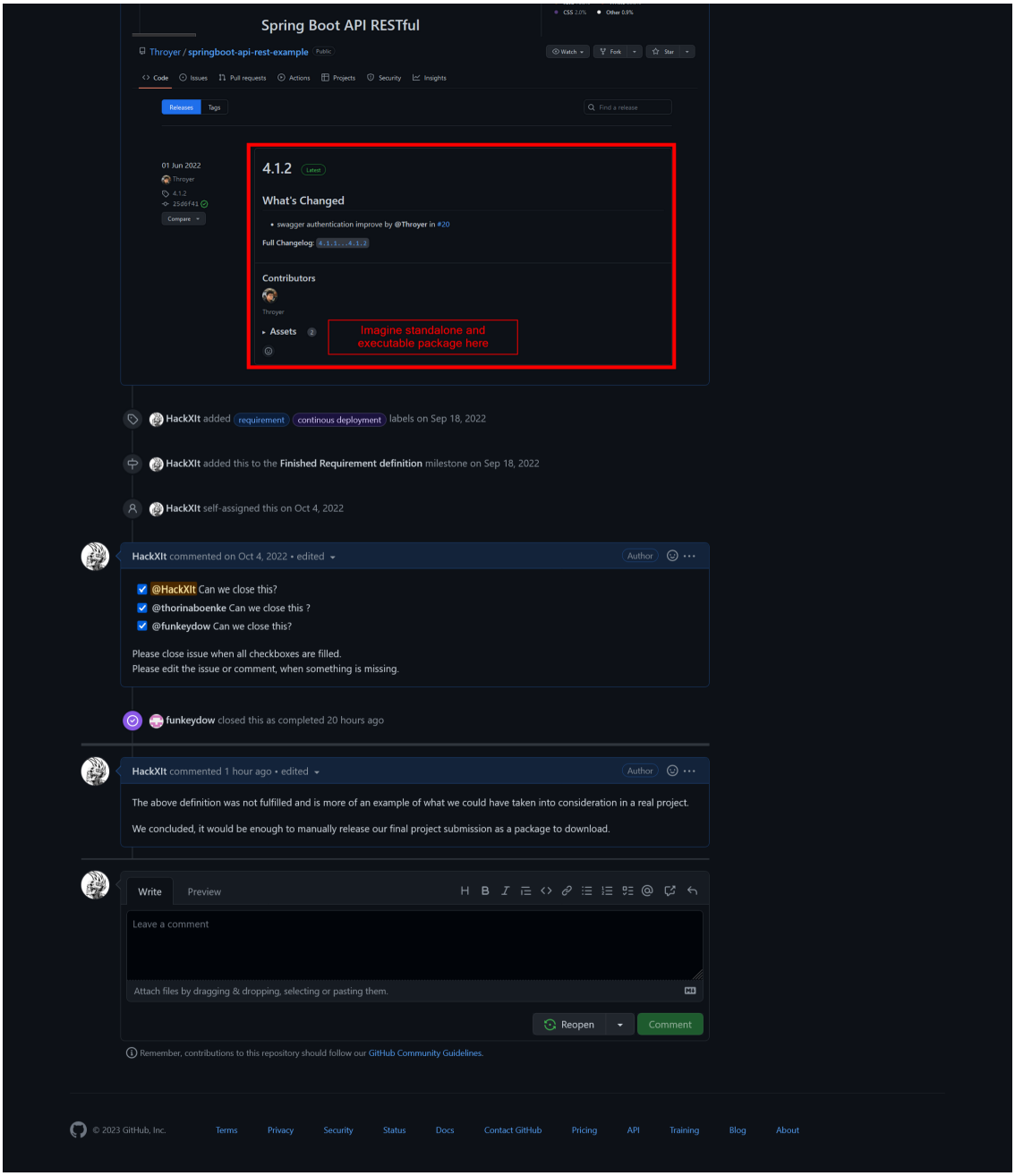
Pricing
API
Training
Blog
About


Search or jump to...
Pull requests
Issues
Codespaces
Marketplace
Explore
HackXIt / SLM-Study-Project
Private
Unwatch 2
Fork 0
Star 0
Code
Issues
Pull requests
Actions
Projects 1
Wiki
Security
Insights
Settings
As a user, I want to receive the latest stable package via the main-branch #10
Edit
New issue
Closed
HackXIt opened this issue on Sep 18, 2022 · 2 comments
HackXIt commented on Sep 18, 2022 • edited
REQ-Definition:
There exists a link to the latest stable release on the main page of the repository
The link to the application package is updated automatically, when a new stable release is made available by the developer
The choice of publishing a new stable package must be made by the developer
The choice may be done on behalf of the developer by automatic mechanisms put in place by the developer
The format of the application package may change between releases
The format of the application package must be usable and known to the user
If the user doesn't know how to use the application package, a short guide should be in the main page of the repository
Check out the Release page
Example:
Source: https://github.com/Throyer/springboot-api-rest-example
Throyer / springboot-api-rest-example
About
Spring Boot API RESTful with tests, swagger e JWT
README.md
Releases
4.1.2
Latest
+ 7 releases
Packages
Environments
throyer-crud-api
Languages
Assignees
HackXIt
Labels
continous deployment
requirement
Projects
SLM-Study-Project
Status: Done
+2 more
Milestone
Finished Requirement definition
Development
Create a branch for this issue or link a pull request.
Notifications
Customize
Unsubscribe
You're receiving notifications because you're watching this repository.
2 participants
Lock conversation
Pin issue
Transfer issue
Delete issue

9.


Spring Boot API RESTful
Throyer / springboot-api-rest-example
Public
Watch
Fork
Star
Code
Issues
Pull requests
Actions
Projects
Security
Insights
Releases
Tags
Find a release
01 Jun 2022
Throyer
4.1.2
25d6f41
Compare
4.1.2
Latest
What's Changed
swagger authentication improve by @Throyer in #20
Full Changelog: 4.1.1...4.1.2
Contributors
Throyer
Assets 2
Imagine standalone and executable package here
HackXIt added requirement continous deployment labels on Sep 18, 2022
HackXIt added this to the Finished Requirement definition milestone on Sep 18, 2022
HackXIt self-assigned this on Oct 4, 2022
HackXIt commented on Oct 4, 2022 • edited
Author
@HackXIt Can we close this?
@thorinaboenke Can we close this ?
@funkeydow Can we close this?
Please close issue when all checkboxes are filled.
Please edit the issue or comment, when something is missing.
funkeydow closed this as completed 20 hours ago
HackXIt commented 1 hour ago • edited
Author
The above definition was not fulfilled and is more of an example of what we could have taken into consideration in a real project.
We concluded, it would be enough to manually release our final project submission as a package to download.
Write
Preview
Leave a comment
Attach files by dragging & dropping, selecting or pasting them.
Reopen
Comment
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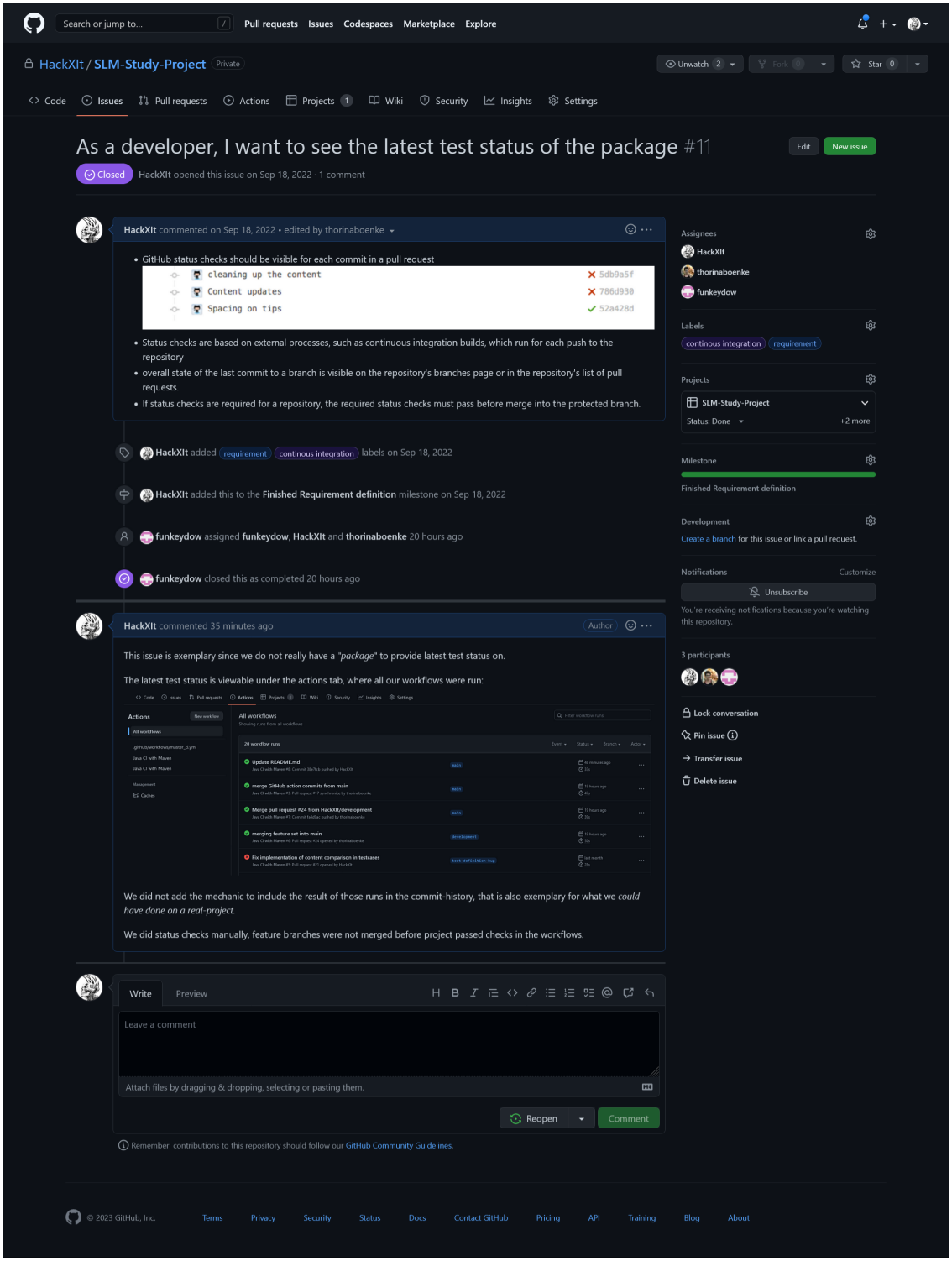
10.


Search or jump to...
Pull requests
Issues
Codespaces
Marketplace
Explore
HackXIt / SLM-Study-Project
Private
Unwatch 2
Fork 0
Star 0
Code
Issues
Pull requests
Actions
Projects 1
Wiki
Security
Insights
Settings
As a developer, I want to see the latest test status of the package #11
Edit
New issue
Closed
HackXIt opened this issue on Sep 18, 2022 · 1 comment
HackXIt commented on Sep 18, 2022 • edited by thorinaboenke
GitHub status checks should be visible for each commit in a pull request
cleaning up the content 5db9a5f
Content updates 786d930
Spacing on tips 52a428d
Status checks are based on external processes, such as continuous integration builds, which run for each push to the repository
overall state of the last commit to a branch is visible on the repository's branches page or in the repository's list of pull requests.
If status checks are required for a repository, the required status checks must pass before merge into the protected branch.
HackXIt added requirement continous integration labels on Sep 18, 2022
HackXIt added this to the Finished Requirement definition milestone on Sep 18, 2022
funkeydow assigned funkeydow, HackXIt and thorinaboenke 20 hours ago
funkeydow closed this as completed 20 hours ago
HackXIt commented 35 minutes ago
Author
This issue is exemplary since we do not really have a "package" to provide latest test status on.
The latest test status is viewable under the actions tab, where all our workflows were run:
We did not add the mechanic to include the result of those runs in the commit-history, that is also exemplary for what we could have done on a real-project.
We did status checks manually, feature branches were not merged before project passed checks in the workflows.
Write
Preview
Leave a comment
Attach files by dragging & dropping, selecting or pasting them.
Reopen
Comment
Remember, contributions to this repository should follow our GitHub Community Guidelines.
Assignees
HackXIt
thorinaboenke
funkeydow
Labels
continous integration
requirement
Projects
SLM-Study-Project
Status: Done
+2 more
Milestone
Finished Requirement definition
Development
Create a branch for this issue or link a pull request.
Notifications
Customize
Unsubscribe
You're receiving notifications because you're watching this repository.
3 participants
Lock conversation
Pin issue
Transfer issue
Delete issue
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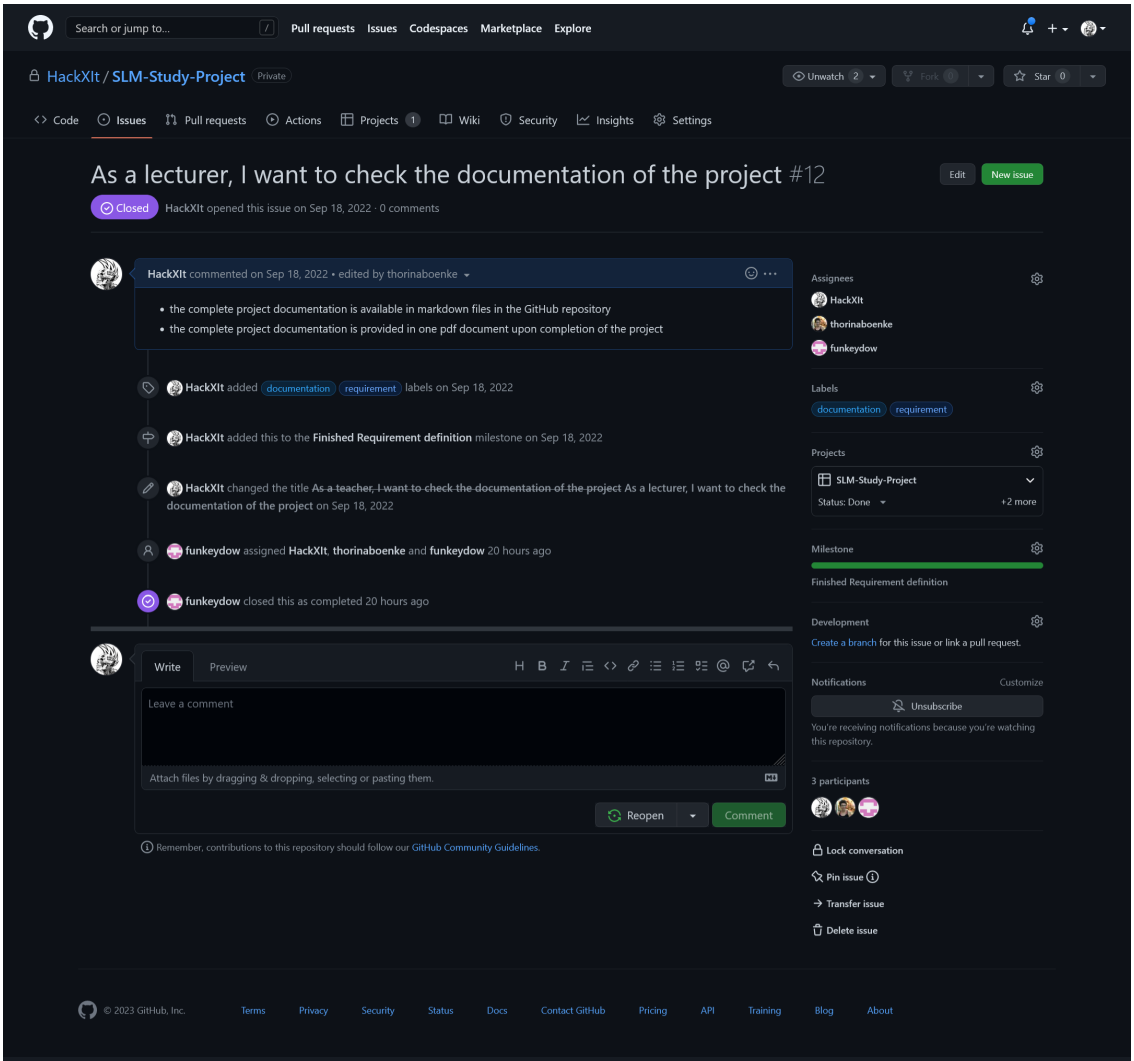
11.


Search or jump to...
Pull requests
Issues
Codespaces
Marketplace
Explore
HackXIt / SLM-Study-Project
Private
Unwatch 2
Fork 0
Star 0
Code
Issues
Pull requests
Actions
Projects 1
Wiki
Security
Insights
Settings
As a lecturer, I want to check the documentation of the project #12
Edit
New issue
Closed
HackXIt opened this issue on Sep 18, 2022 · 0 comments
HackXIt commented on Sep 18, 2022 • edited by thorinaboenke
the complete project documentation is available in markdown files in the GitHub repository
the complete project documentation is provided in one pdf document upon completion of the project
HackXIt added documentation requirement labels on Sep 18, 2022
HackXIt added this to the Finished Requirement definition milestone on Sep 18, 2022
HackXIt changed the title As a teacher, I want to check the documentation of the project As a lecturer, I want to check the documentation of the project on Sep 18, 2022
funkeydow assigned HackXIt, thorinaboenke and funkeydow 20 hours ago
funkeydow closed this as completed 20 hours ago
Write
Preview
Leave a comment
Attach files by dragging & dropping, selecting or pasting them.
Reopen
Comment
Remember, contributions to this repository should follow our GitHub Community Guidelines.
Assignees
HackXIt
thorinaboenke
funkeydow
Labels
documentation
requirement
Projects
SLM-Study-Project
Status: Done
+2 more
Milestone
Finished Requirement definition
Development
Create a branch for this issue or link a pull request.
Notifications
Customize
Unsubscribe
You're receiving notifications because you're watching this repository.
3 participants
Lock conversation
Pin issue
Transfer issue
Delete issue
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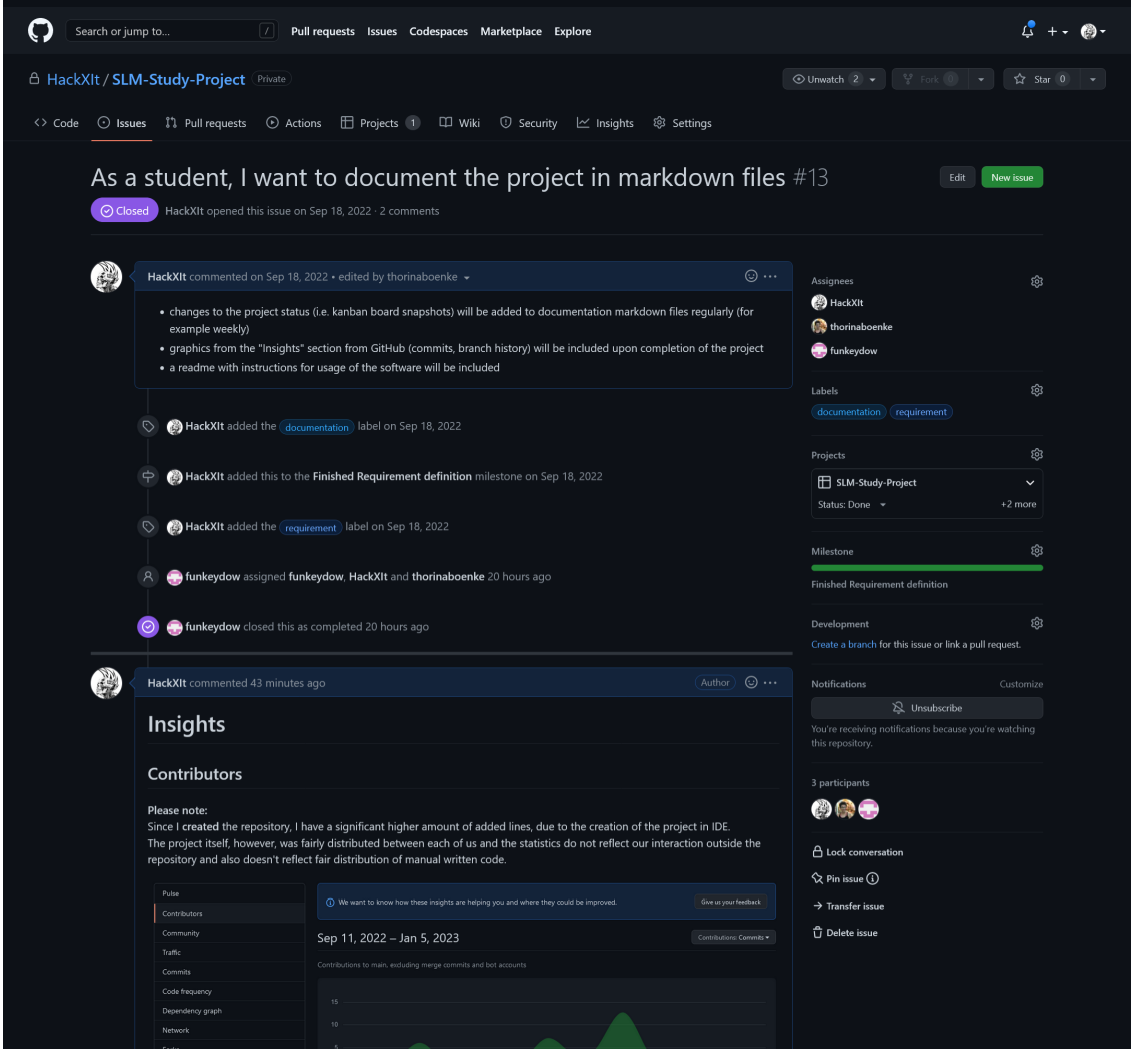
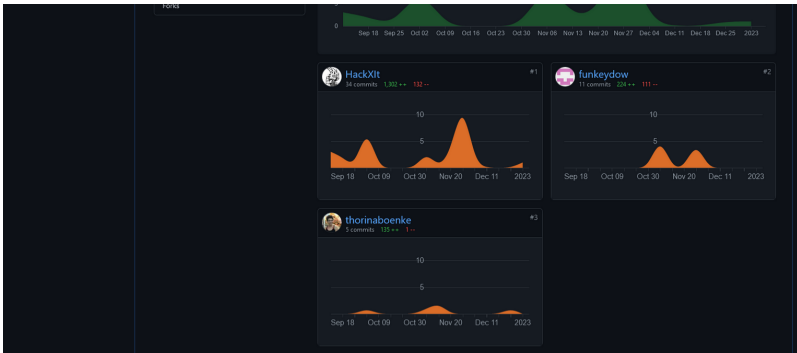
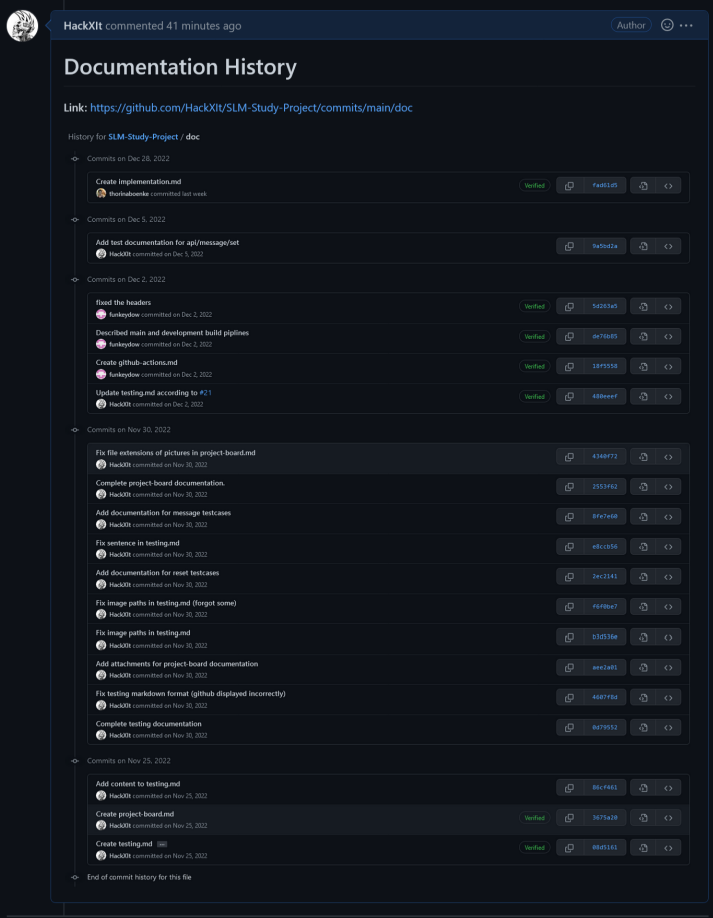

Search or jump to...
Pull requests
Issues
Codespaces
Marketplace
Explore
HackXIt / SLM-Study-Project
Private
Unwatch 2
Fork 0
Star 0
Code
Issues
Pull requests
Actions
Projects 1
Wiki
Security
Insights
Settings
As a student, I want to document the project in markdown files #13
Edit
New issue
Closed
HackXIt opened this issue on Sep 18, 2022 · 2 comments
HackXIt commented on Sep 18, 2022 • edited by thorinaboenke
changes to the project status (i.e. kanban board snapshots) will be added to documentation markdown files regularly (for example weekly)
graphics from the "Insights" section from GitHub (commits, branch history) will be included upon completion of the project
a readme with instructions for usage of the software will be included
HackXIt added the documentation label on Sep 18, 2022
HackXIt added this to the Finished Requirement definition milestone on Sep 18, 2022
HackXIt added the requirement label on Sep 18, 2022
funkeydow assigned funkeydow, HackXIt and thorinaboenke 20 hours ago
funkeydow closed this as completed 20 hours ago
HackXIt commented 43 minutes ago
Author
Insights
Contributors
Please note:
Since I created the repository, I have a significant higher amount of added lines, due to the creation of the project in IDE.
The project itself, however, was fairly distributed between each of us and the statistics do not reflect our interaction outside the repository and also doesn't reflect fair distribution of manual written code.
Pulse
Contributors
Community
Traffic
Commits
Code frequency
Dependency graph
Network
We want to know how these insights are helping you and where they could be improved.
Give us your feedback
Sep 11, 2022 – Jan 5, 2023
Contributions: Commits
Contributions to main, excluding merge commits and bot accounts
Assignees
HackXIt
thorinaboenke
funkeydow
Labels
documentation
requirement
Projects
SLM-Study-Project
Status: Done
+2 more
Milestone
Finished Requirement definition
Development
Create a branch for this issue or link a pull request.
Notifications
Customize
Unsubscribe
You're receiving notifications because you're watching this repository.
3 participants
Lock conversation
Pin issue
Transfer issue
Delete issue

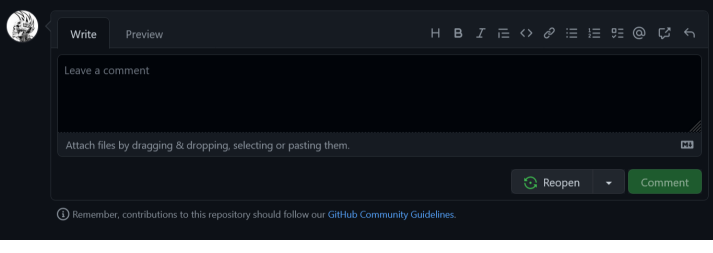
12.


HackXIt
funkeydow
thorinaboenke
Sep 18
Oct 09
Oct 30
Nov 20
Dec 11
2023

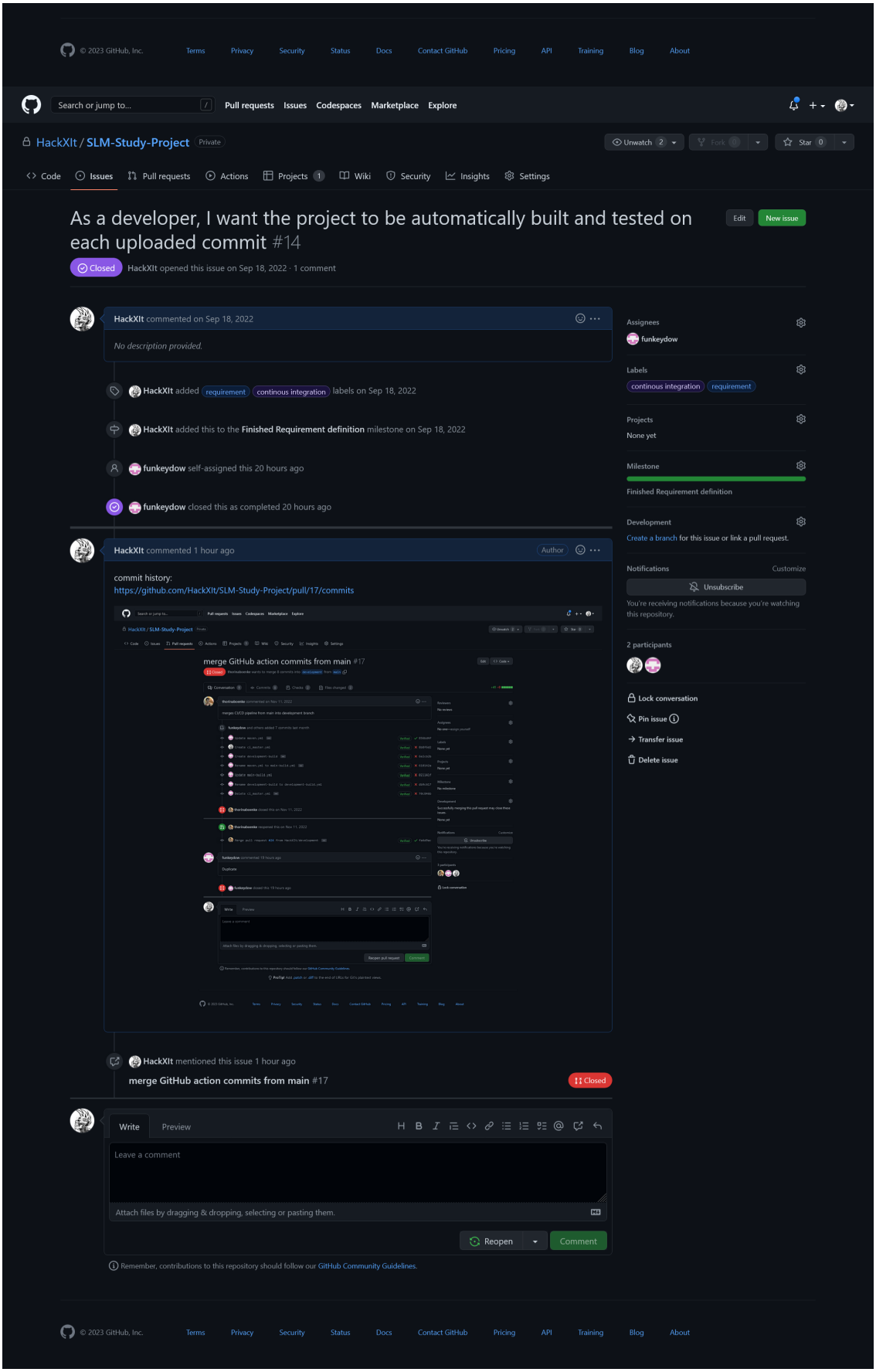

Commits
Pulse
Contributors
Community
Traffic
Commits
Code frequency
We want to know how these insights are helping you and where they could be improved.
Give us your feedback


Code frequency
Pulse
Contributors
Community
Traffic
Commits
Code frequency
Dependency graph
Network
Forks
We want to know how these insights are helping you and where they could be improved.
Give us your feedback
Additions and Deletions per week


HackXIt commented 41 minutes ago
Author
Documentation History
Link: https://github.com/HackXIt/SLM-Study-Project/commits/main/doc
History for SLM-Study-Project / doc
Commits on Dec 28, 2022
Create implementation.md
thorinaboenke committed last week
Commits on Dec 5, 2022
Add test documentation for api/message/set
HackXIt committed on Dec 5, 2022
Commits on Dec 2, 2022
fixed the headers
funkeydow committed on Dec 2, 2022
Described main and development build piplines
funkeydow committed on Dec 2, 2022
Create github-actions.md
funkeydow committed on Dec 2, 2022
Update testing.md according to #21
HackXIt committed on Dec 2, 2022
Commits on Nov 30, 2022
Fix file extensions of pictures in project-board.md
HackXIt committed on Nov 30, 2022
Complete project-board documentation.
HackXIt committed on Nov 30, 2022
Add documentation for message testcases
HackXIt committed on Nov 30, 2022
Fix sentence in testing.md
HackXIt committed on Nov 30, 2022
Add documentation for reset testcases
HackXIt committed on Nov 30, 2022
Fix image paths in testing.md (forgot some)
HackXIt committed on Nov 30, 2022
Fix image paths in testing.md
HackXIt committed on Nov 30, 2022
Add attachments for project-board documentation
HackXIt committed on Nov 30, 2022
Fix testing markdown format (github displayed incorrectly)
HackXIt committed on Nov 30, 2022
Complete testing documentation
HackXIt committed on Nov 30, 2022
Commits on Nov 25, 2022
Add content to testing.md
HackXIt committed on Nov 25, 2022
Create project-board.md
HackXIt committed on Nov 25, 2022
Create testing.md
HackXIt committed on Nov 25, 2022
End of commit history for this file


Write
Preview
Leave a comment
Attach files by dragging & dropping, selecting or pasting them.
Reopen
Comment
Remember, contributions to this repository should follow our GitHub Community Guidelines.

13.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Search or jump to... Pull requests Issues Codespaces Marketplace Explore
HackXIt / SLM-Study-Project Private
Unwatch 2 Fork 0 Star 0
Code Issues Pull requests Actions Projects 1 Wiki Security Insights Settings
As a developer, I want the project to be automatically built and tested on each uploaded commit #14
Edit New issue
Closed HackXIt opened this issue on Sep 18, 2022 · 1 comment
HackXIt commented on Sep 18, 2022
No description provided.
HackXIt added requirement continous integration labels on Sep 18, 2022
HackXIt added this to the Finished Requirement definition milestone on Sep 18, 2022
funkeydow self-assigned this 20 hours ago
funkeydow closed this as completed 20 hours ago
HackXIt commented 1 hour ago Author
commit history:
https://github.com/HackXIt/SLM-Study-Project/pull/17/commits
merge GitHub action commits from main #17
HackXIt mentioned this issue 1 hour ago
merge GitHub action commits from main #17 Closed
Write Preview
Leave a comment
Attach files by dragging & dropping, selecting or pasting them.
Reopen Comment
Remember, contributions to this repository should follow our GitHub Community Guidelines.
Assignees
funkeydow
Labels
continous integration requirement
Projects
None yet
Milestone
Finished Requirement definition
Development
Create a branch for this issue or link a pull request.
Notifications Customize
Unsubscribe
You're receiving notifications because you're watching this repository.
2 participants
Lock conversation
Pin issue
Transfer issue
Delete issue
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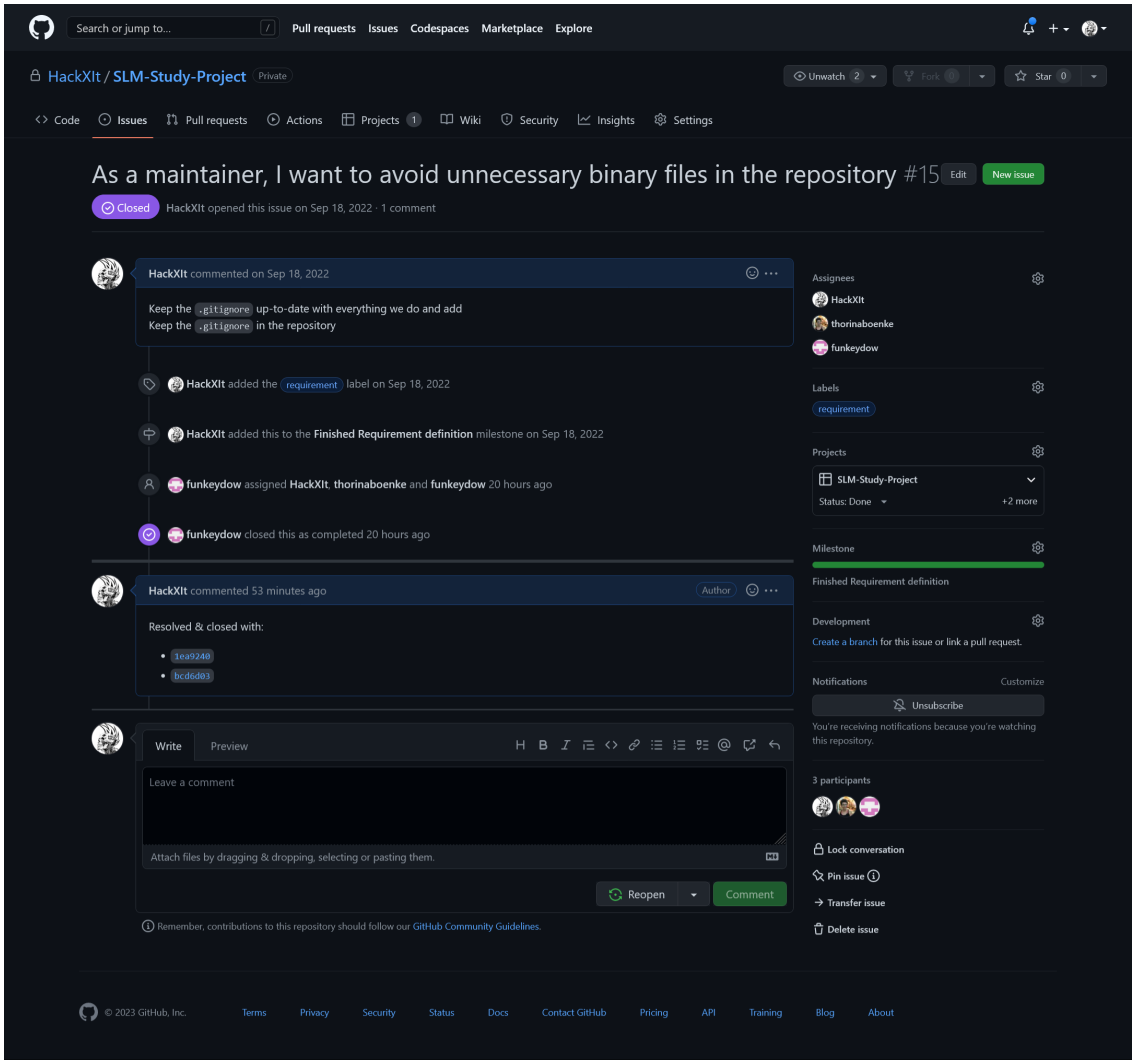
14.


Search or jump to...
Pull requests
Issues
Codespaces
Marketplace
Explore
HackXIt / SLM-Study-Project
Private
Unwatch 2
Fork 0
Star 0
Code
Issues
Pull requests
Actions
Projects 1
Wiki
Security
Insights
Settings
As a maintainer, I want to avoid unnecessary binary files in the repository #15
Edit
New issue
Closed
HackXIt opened this issue on Sep 18, 2022 · 1 comment
HackXIt commented on Sep 18, 2022
Keep the .gitignore up-to-date with everything we do and add
Keep the .gitignore in the repository
HackXIt added the requirement label on Sep 18, 2022
HackXIt added this to the Finished Requirement definition milestone on Sep 18, 2022
funkeydow assigned HackXIt, thorinaboenke and funkeydow 20 hours ago
funkeydow closed this as completed 20 hours ago
HackXIt commented 53 minutes ago
Author
Resolved & closed with:
1ea9240
bcd6d03
Write
Preview
Leave a comment
Attach files by dragging & dropping, selecting or pasting them.
Reopen
Comment
Remember, contributions to this repository should follow our GitHub Community Guidelines.
Assignees
HackXIt
thorinaboenke
funkeydow
Labels
requirement
Projects
SLM-Study-Project
Status: Done
+2 more
Milestone
Finished Requirement definition
Development
Create a branch for this issue or link a pull request.
Notifications
Customize
Unsubscribe
You're receiving notifications because you're watching this repository.
3 participants
Lock conversation
Pin issue
Transfer issue
Delete issue
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Project board

In our project, we used a Kanban board to track the status of our development.

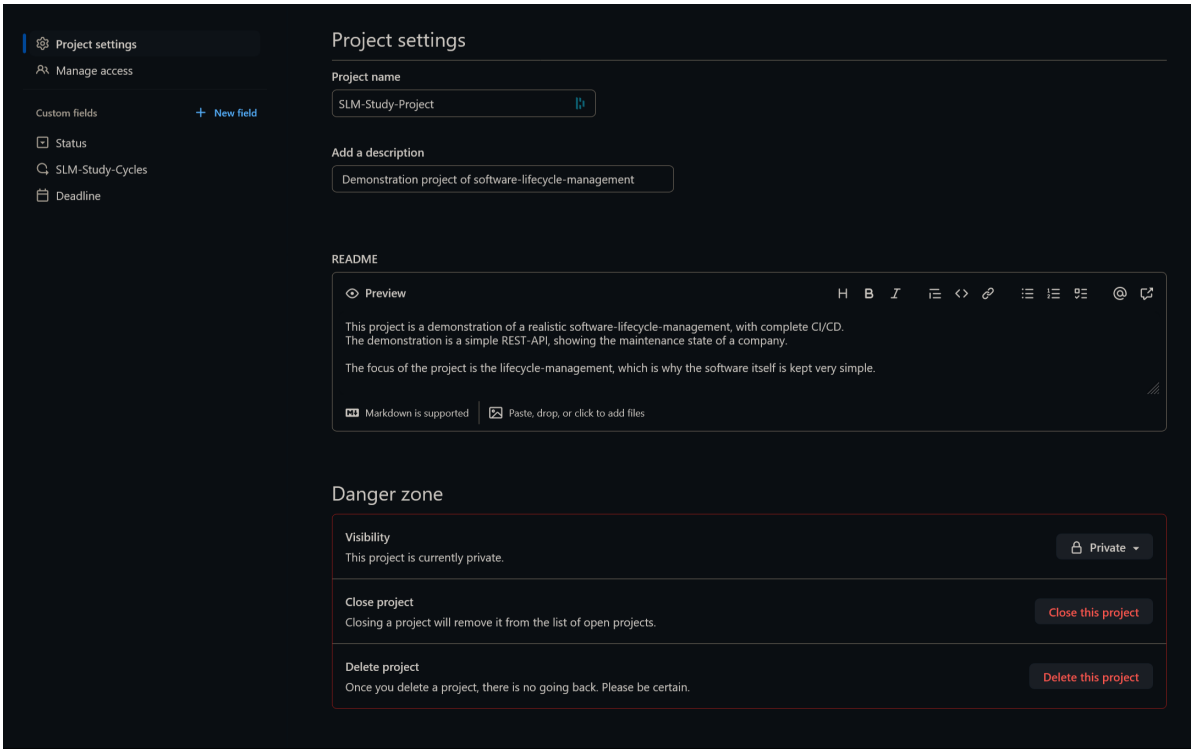
Setup

A GitHub project doesn't start with such a project board, it needs to be added for the logged in user.
In GitHub it's possible to have users representing a company or group, which is why that feature exists at the user-level.

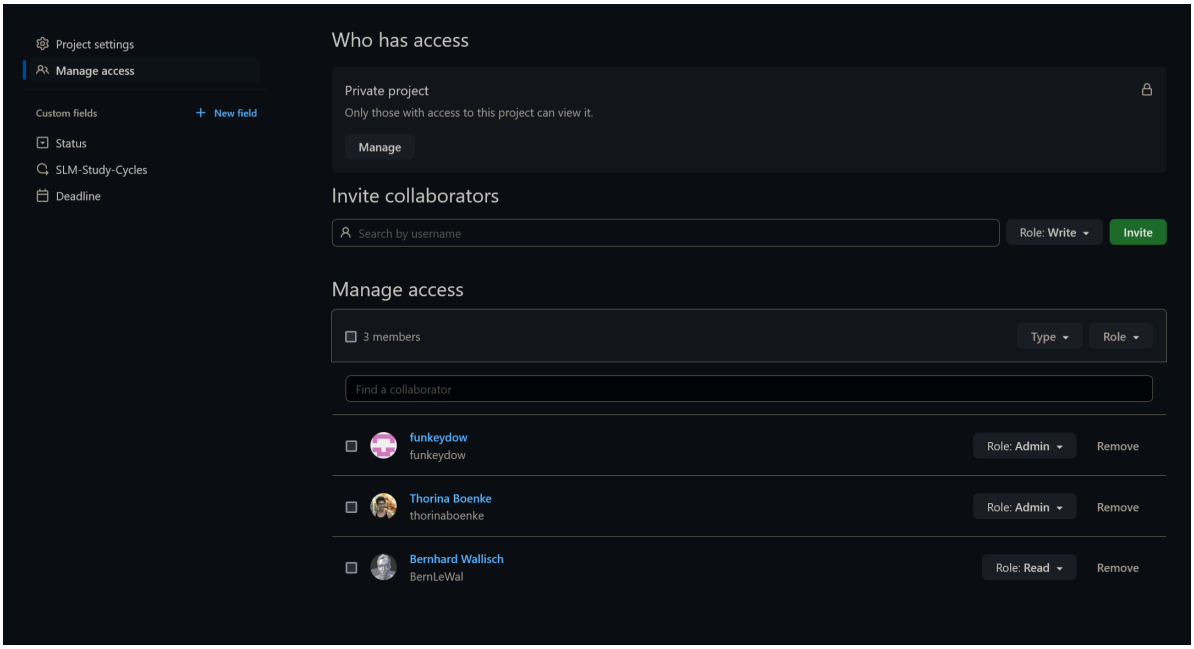
A created project then needs to be linked with a repository and afterwards, issues created in said repository will show up on the board and can be dragged along.

Board settings

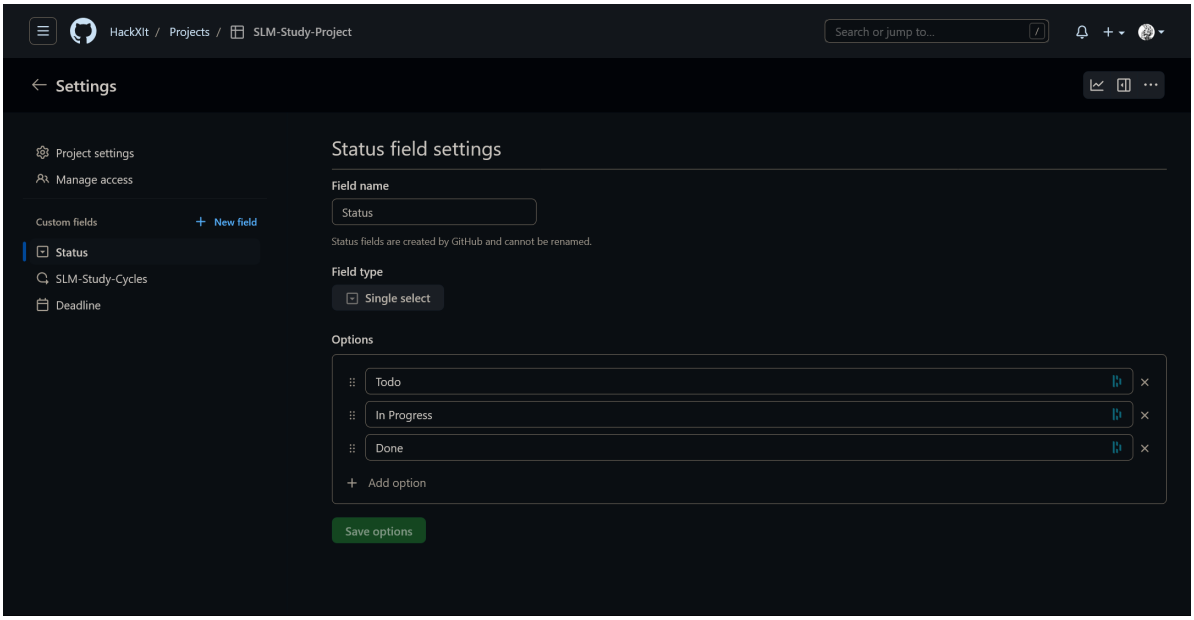
We configured a description and README, so external viewers know what the project is about. These are our project settings.



Since we used a private repository with managed access, the view had to be configured for the contributors of the project.

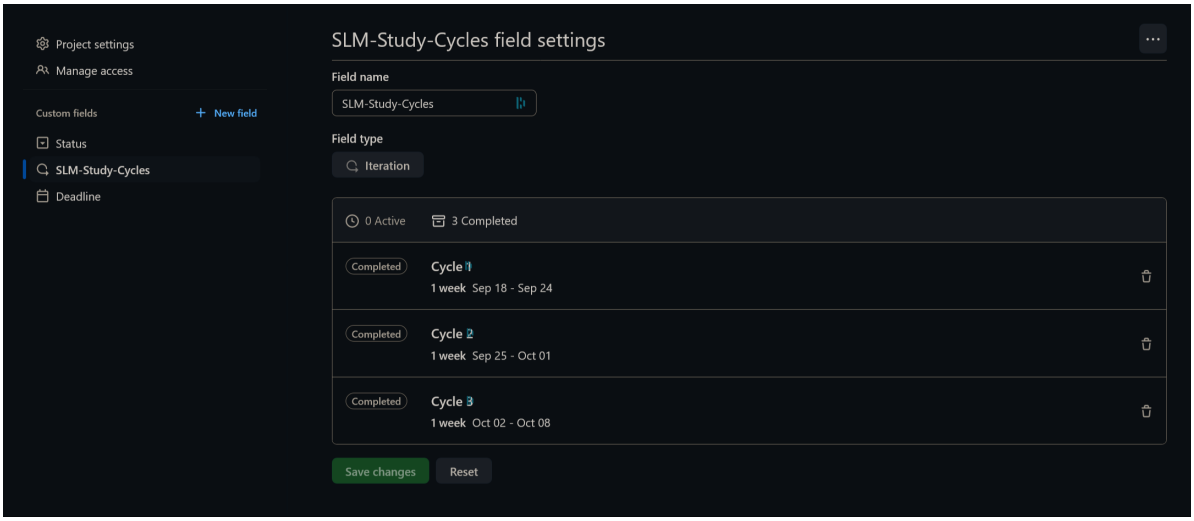


For the actual board, it is possible to configure the status field, but we left it at the default setting:



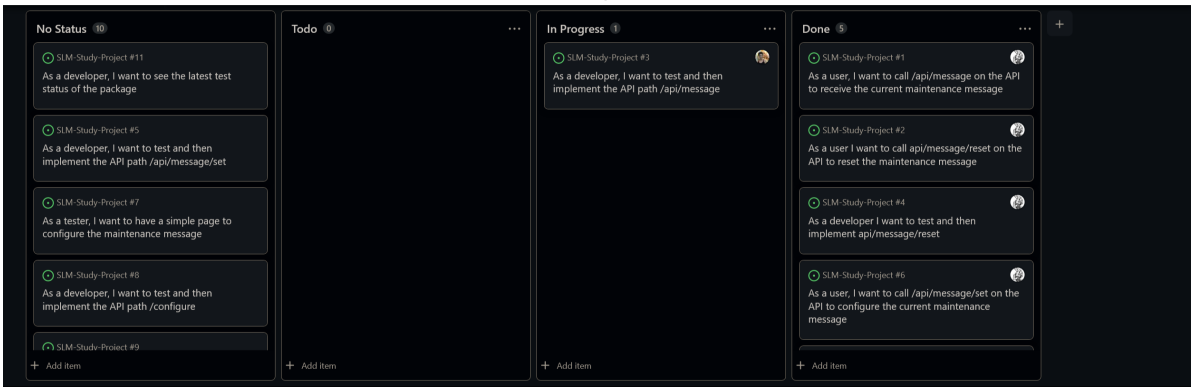
In a real life project, one would be able to configure development cycles, but we ended up not using it, because student life is chaotic and this projects implementation was too simple, so managing the time would have been pointless. *(An estimated total time for the project probably is around a few days for the whole team)*

We added the field anyways, for demonstration purposes:

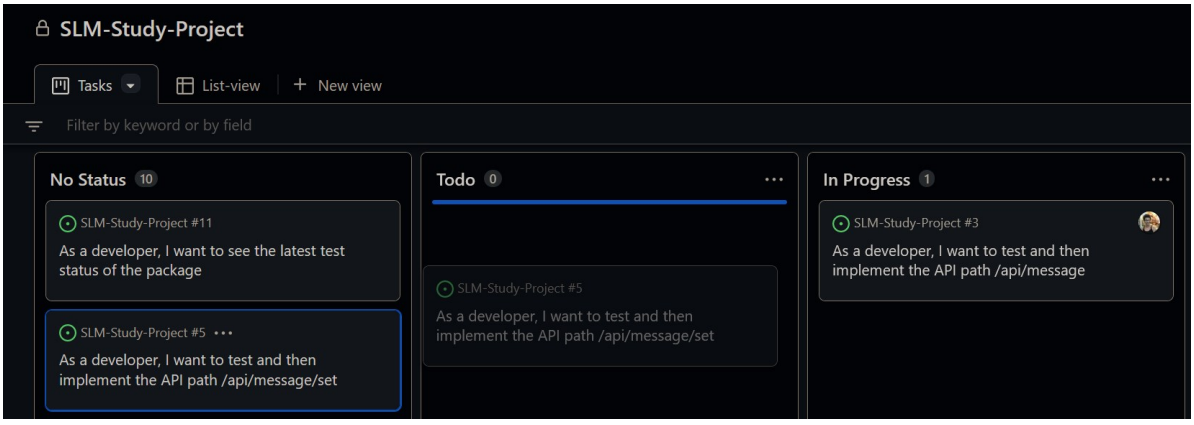


Board view & usage

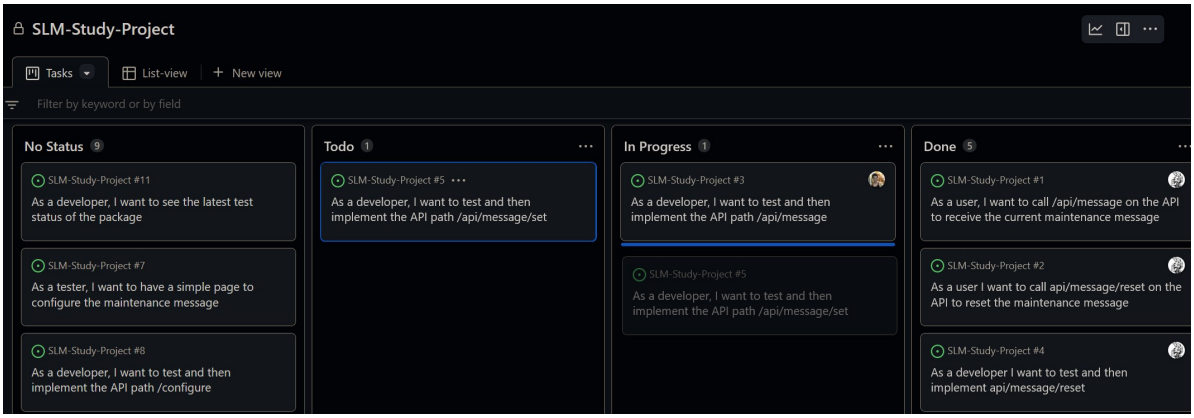
This is a view of the board in the middle of development:

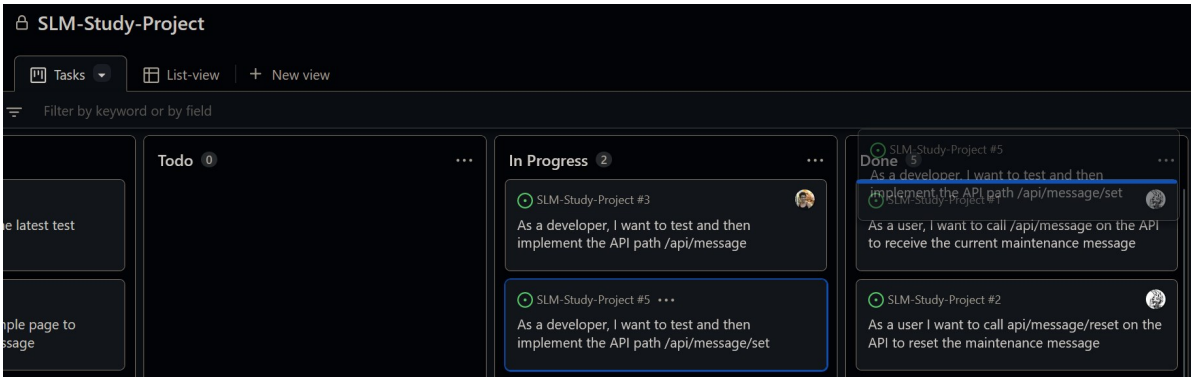


To change the status of an issue, a collaborator can drag the issue-card from one column to the next:



This is repeated for all other states, an issue can have during development:





And that's how it was done throughout the project. ;)

Testing

Since our development process was TDD (**t**est-**d**riven-**d**evelopment), tests were implemented before any implementation. To explain this process of development in detail, an example is provided further below, which dives into the development of the branch `feature/api-message-reset`.

In addition to our process, we needed to implement **c**ontinous **i**ntegration (CI) and **c**ontinous **d**eployment (CD) pipelines. Those pipelines used the default maven commands, to build our project for artifacts and execute the available unit tests on them.
The details about that, are in our CI/CD documentation.

In the following sections, we document what our unit tests do. The sections are seperated by feature branch, meaning each section contains a different API path with different corresponding testcases.

Since the internal state of the application stays the same throughout test execution, we needed to set the annotation `@DirtiesContext` for some testcases, otherwise one test could affect the expected initial state of another.

feature/api-message

The `message` feature returns either the current service message or the default service message, if the `current` message hasn't been set.

GetMessageTest

This testcase verifies the existance and functionality of the APi-path `api/message`.
On initial start of the webpage, the service doesn't have an initialized `message`, which is why we provide a default message.
The initial default message is statically set to `Status OK`.

We expect a positive response `200` of the API call and verify the contents of the response against our expected static message.

```
@Test
@Order(1)
void GetMessageTest() throws Exception {
    mockMvc.perform(get("/api/message"))
            .andExpect(status().is2xxSuccessful())
            .andExpect(content().string("Status Ok"));
}
```

GetMessageWithoutDefaultTest

This testcase verifies the expected failure of `api/message`.

We expect a failure of `api/message` when the `default` message was set to a blank message, without having called `api/message/set` to initialize the `current` message.

This failure prevents a segmentation fault, because when trying to return a `null` current message, it would mean we have an access violation.

```
@Test
@Order(2)
// Makes context dirty because: defaultMessage will be blank
@DirtiesContext(methodMode = DirtiesContext.MethodMode.AFTER_METHOD)
void GetMessageWithoutDefaultTest() throws Exception {
    mockMvc.perform(get("/api/message/default?msg="))
            .andExpect(status().is2xxSuccessful())
            .andExpect(content().string(""));
    mockMvc.perform(get("/api/message"))
            .andExpect(status().is5xxServerError())
            .andExpect(content().string("No default message or message set"));
}
```

feature/api-message-set

The `set` feature is supposed to **set** the current message of the server to a provided message. We did not set any limitations due to the small scale of the project, as such the API simply sets the message without checking the provided string.

GetMessageSetTest

This test verifies the normal behaviour of the API call, by setting the current message to a string and verifying the response header as well as the content, which should correspond to the message set.

```
@Test
@Order(1)
void GetMessageSetTest() throws Exception {
    mockMvc.perform(get("/api/message/set?m=Giraffe"))
        .andExpect(status().is2xxSuccessful())
        .andExpect(content().string("Giraffe"));
}
```

GetMessageSetMultipleWordsTest

This test verifies if the message can be set to a message containing spaces, which implicitly gets parsed to a correct URL by the mocking client.
In practice, the used test string would look like so:

`/api/message/set?`
`m=The+giraffe+is+a+large+African+hoofed+mammal+belonging+to+the+genus+Giraffa`

The message is again verified in the response header as well as in the content.

```
@Test
@Order(2)
void GetMessageSetMultipleWordsTest() throws Exception {
    mockMvc.perform(get("/api/message/set?m=The giraffe is a large African
hoofed mammal belonging to the genus Giraffa"))
        .andExpect(status().is2xxSuccessful())
        .andExpect(content().string("The giraffe is a large African hoofed
mammal belonging to the genus Giraffa"));
}
```

feature/api-message-reset

The `reset` feature is supposed to **reset** the current message to a default message of the server. We adapted the requirement a little bit, which is why we also added an API path for a `default` message, so we can make sure that there's a message to begin with, without requiring the implementation of `set`.

GetMessageResetTest

This testcase verifies the existence and functionality of the API-path `/api/message/reset` by expecting a response of `200` when calling it with the `MockMvc` client.

By checking the response, we successfully tested the functionality of `reset`, since that's what it responds with.

This test is executed **first**.
It affects the internal state of `currentApiMessage` by setting it to the content of `apiMessageDefault`.

```
@Test
@Order(1)
// Makes context dirty because: currentMessage will be set to "Status Ok"
@DirtiesContext(methodMode = DirtiesContext.MethodMode.AFTER_METHOD)
void GetMessageResetTest() throws Exception {
    mockMvc.perform(get("/api/message/reset"))
            .andExpect(status().is2xxSuccessful());
}
```

GetMessageDefaultTest

This testcase verifies the `default` API-path functionality.

It sets the default message, verifies the response of the API call and then verifies the contents of the response.
After successful execution of this path, it resets the default message to the original state and verifies the result.

This test is executed **second**.
It affects the internal state of `apiMessageDefault` by setting it to a blank string.

```
@Test
@Order(2)
// Makes context dirty because: defaultMessage will be blank
@DirtiesContext(methodMode = DirtiesContext.MethodMode.AFTER_METHOD)
void GetMessageDefaultTest() throws Exception {
    mockMvc.perform(get("/api/message/default?msg=Hello"))
            .andExpect(status().is2xxSuccessful())
            .andExpect(content().string("Hello"));
    mockMvc.perform(get("/api/message/default?msg="))
            .andExpect(status().is2xxSuccessful())
            .andExpect(content().string(""));
}
```

GetMessageResetWithoutDefaultTest

This testcase verifies the expected failure of the `reset` API-path.

When `reset` is called without a `default` message, an internal server error occurs, since it requires the default message to be set.
We defined this testcase, to make sure that the implementation will use the default message for calling `reset`, because we defined that `reset` doesn't clear the message, but instead resets the message to a default one. Without a default message, this API cannot be called.

This test is executed **third**.
It affects the internal state of `apiMessageDefault` by setting it to a blank string.

```
@Test
@Order(3)
// Makes context dirty because: defaultMessage will be blank
@DirtiesContext(methodMode = DirtiesContext.MethodMode.AFTER_METHOD)
void GetMessageResetWithoutDefaultTest() throws Exception {
    mockMvc.perform(get("/api/message/default?msg="))
            .andExpect(status().is2xxSuccessful())
            .andExpect(content().string(""));
    mockMvc.perform(get("/api/message/reset"))
            .andExpect(status().is5xxServerError())
            .andExpect(content().string("Default message is not set."));
}
```

Example process in feature branch

To implement a test, we used the testing features of the spring boot framework.
Initially a test class looks like the following example:

Add MessageResetTests class to test /api/message/reset

development (#16) + documentation (#19, #16) + feature/api-message (#16) + feature/api-message-reset (#16)

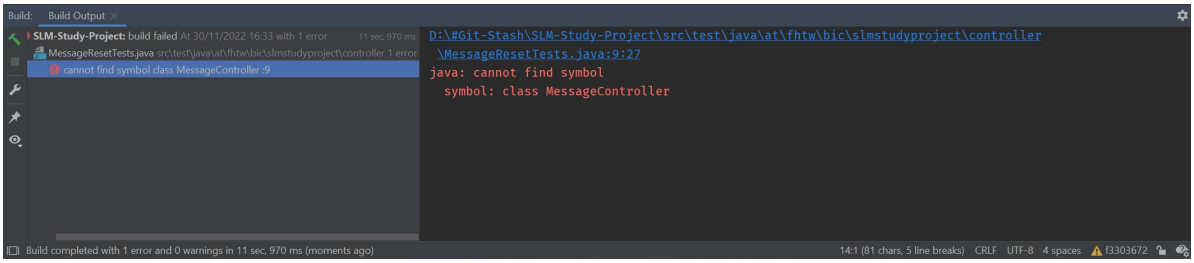
HackXIt committed on Oct 4

Showing 1 changed file with 13 additions and 0 deletions.

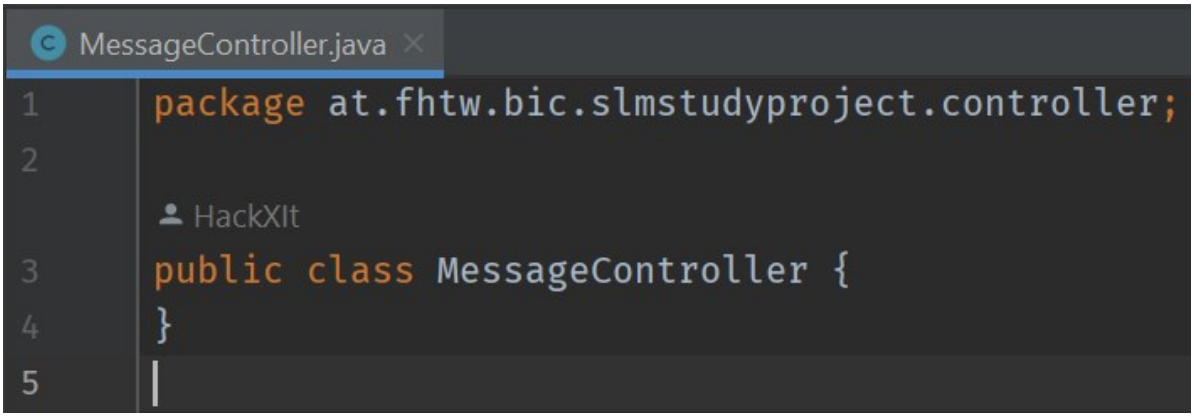
13 src/test/java/at/fhtw/bic/slmstudyproject/controller/MessageResetTests.java

```
@@ -0,0 +1,13 @@
+ package at.fhtw.bic.slmstudyproject.controller;
+
+ import org.junit.jupiter.api.Test;
+ import org.springframework.beans.factory.annotation.Autowired;
+ import org.springframework.boot.test.autoconfigure.web.servlet.WebMvcTest;
+ import org.springframework.boot.test.context.SpringBootTest;
+ import org.springframework.test.web.servlet.MockMvc;
+
+ @WebMvcTest(controllers = MessageController.class)
+ @SpringBootTest
+ public class MessageResetTests {
+
+ }
```

As intended in TDD, even this simple test class will initially fail:



The process of TDD dictates, that we now refactor our code to fix this initial error:



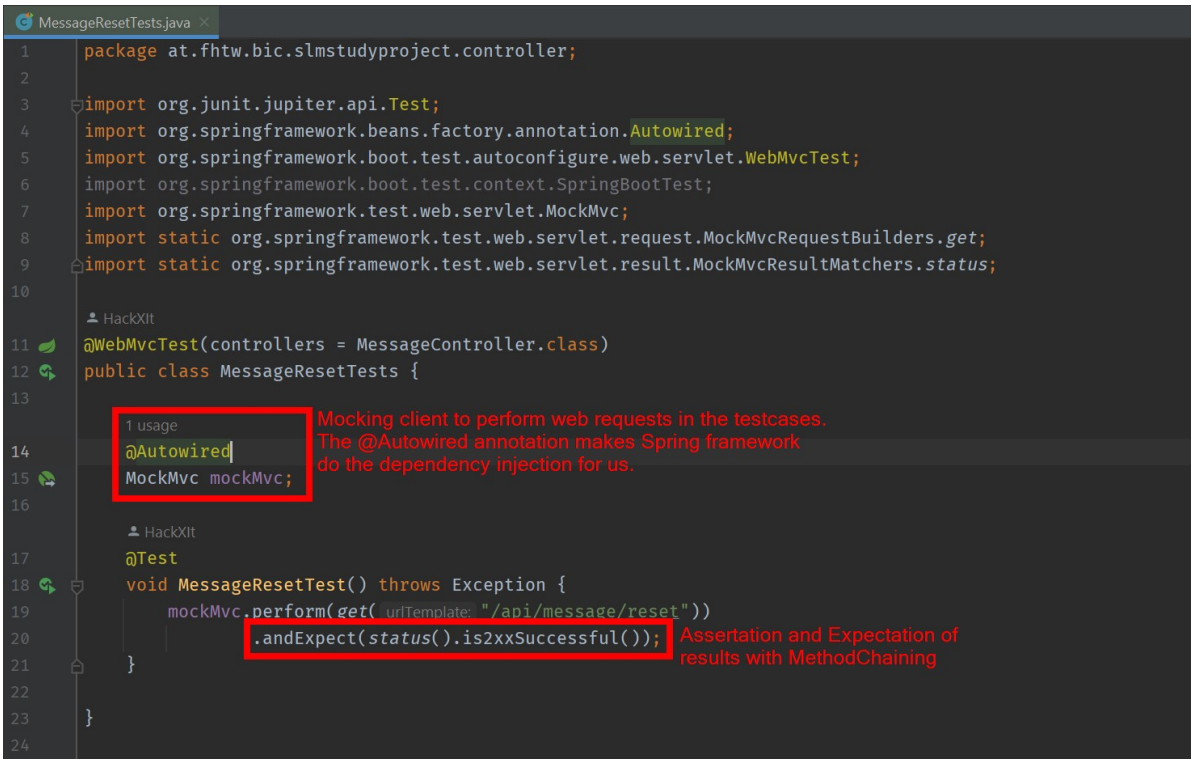

```
* 6188d69 Fix build-error, add MessageController class
* f330367 Add MessageResetTests class to test /api/message/reset
```

Great!

But we still don't have any relevant tests, which were implemented using the same principle as before:

1. Implement a test
2. Execute test and expect failure
3. Refactor code until Expectation succeeds.
4. Repeat.

To help us implement our testcases for the actual API paths, we required some additional help of the Spring Framework, since we need a client to make API requests.
For this we used the provided `MockMvc`, which is a complete `mocking` client to do web requests. The client is very useful, since it provides mechanism to `assert` and `expect` results from the reponse of the API, which allowed us to design our API with TDD as process.



In the feature branch, the process was continued until all requirements of the feature were implemented and commited.

For our example feature `feature/api-message-reset`, our resulting tests were:
(`MessageResetTests` @ `f91fff5`)

```
package at.fhtw.bic.slmstudyproject.controller;

import org.junit.jupiter.api.*;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.boot.test.autoconfigure.web.servlet.WebMvcTest;
import org.springframework.boot.test.context.SpringBootTest;
import org.springframework.test.web.servlet.MockMvc;
import static
org.springframework.test.web.servlet.request.MockMvcRequestBuilders.get;
import static
org.springframework.test.web.servlet.result.MockMvcResultMatchers.status;

@WebMvcTest(controllers = MessageController.class)
```

```java
@TestMethodOrder(MethodOrderer.OrderAnnotation.class)
public class MessageResetTests {

    @Autowired
    MockMvc mockMvc;

    // Using test order, since when GetMessageResetTest is run between, it will
fail,
    // since Initial Default Message was already reset

    @Test
    @Order(1)
    void GetMessageResetTest() throws Exception {
        mockMvc.perform(get("/api/message/reset"))
                .andExpect(status().is2xxSuccessful());
    }

    @Test
    @Order(2)
    void GetMessageDefaultTest() throws Exception {
        mockMvc.perform(get("/api/message/default?msg=Hello"))
                .andExpect(status().is2xxSuccessful())
                .andExpect(result ->
result.getResponse().getContentAsString().contentEquals("Hello"));
        mockMvc.perform(get("/api/message/default?msg="))
                .andExpect(status().is2xxSuccessful())
                .andExpect(result ->
result.getResponse().getContentAsString().isBlank());
    }

    @Test
    @Order(3)
    void GetMessageResetWithoutDefaultTest() throws Exception {
        mockMvc.perform(get("/api/message/default?msg="))
                .andExpect(status().is2xxSuccessful())
                .andExpect(result ->
result.getResponse().getContentAsString().isBlank());
        mockMvc.perform(get("/api/message/reset"))
                .andExpect(status().is5xxServerError())
                .andExpect(result ->
result.getResponse().getContentAsString().contentEquals("Default message is not
set."));

    }

}
```

And here is the final implementation of these tests: (`MessageController.java` @ `f91fff5`)

```java
package at.fhtw.bic.slmstudyproject.controller;

import org.springframework.beans.factory.annotation.Required;
import org.springframework.http.HttpStatus;
import org.springframework.http.ResponseEntity;
import org.springframework.web.HttpMediaTypeException;
```

```java
import org.springframework.web.bind.annotation.*;

@RestController
@RequestMapping("/api/message")
public class MessageController {

    private String apiMessageDefault = "Status Ok";
    private String currentApiMessage;

    @GetMapping("/reset")
    public ResponseEntity<String> MessageReset() {
        if(apiMessageDefault.isBlank()) {
            return new ResponseEntity<>("Default message is not set.",
HttpStatus.INTERNAL_SERVER_ERROR);
        }
        currentApiMessage = apiMessageDefault;
        return new ResponseEntity<>(currentApiMessage, HttpStatus.OK);
    }

    @GetMapping("/default")
    public ResponseEntity<String> SetMessageDefault(@RequestParam(required=true)
String msg) {
        apiMessageDefault = msg;
        return new ResponseEntity<>(apiMessageDefault, HttpStatus.OK);
    }

}
```

Implementation

The class MessageController was created as a @RestController that mappes requests of the path /api/message via
@RequestMapping. The class holds the two private variables apiMessageDefault and currentApiMessage.

```
@RestController
@RequestMapping("/api/message")
public class MessageController {

    private String apiMessageDefault = "Status Ok";
    private String currentApiMessage;
```

feature/api-message

The `message` feature returns either the current service message or the default service message, if the `current` message hasn't been set.

```
@GetMapping("")
    public ResponseEntity<String> Message() {
        if(currentApiMessage == null) {
            if (apiMessageDefault.isBlank()) {
                return new ResponseEntity<>("No default message or message set",
HttpStatus.INTERNAL_SERVER_ERROR);
                }
            return new ResponseEntity<>(apiMessageDefault, HttpStatus.OK);
            }
        return new ResponseEntity<>(currentApiMessage, HttpStatus.OK);
    }
```

feature/api-message-set

The `set` feature is supposed to **set** the current message of the server to a provided message.

```
 @GetMapping("/set")
    public ResponseEntity<String> SetMessage(@RequestParam(name="m",
required=true) String msg){
        currentApiMessage = msg;
        return new ResponseEntity<>(currentApiMessage, HttpStatus.OK);
    }
```

feature/api-message-reset

The `reset` feature is supposed to **reset** the current message to a default message of the server.

```
@GetMapping("/reset")
    public ResponseEntity<String> MessageReset() {
        if(apiMessageDefault.isBlank()) {
            return new ResponseEntity<>("Default message is not set.",
HttpStatus.INTERNAL_SERVER_ERROR);
        }
        currentApiMessage = apiMessageDefault;
        return new ResponseEntity<>(currentApiMessage, HttpStatus.OK);
    }
```

GitHub-Actions

In order to build an executeable jar and run the tests of our application we use github actions.
We use two build pipelines one for the main and one for the development branch.

Start Actions

The two seperate Actions get started by either push or Pull requests on the selected branch:

For the main branch:

```
on:
  push:
    branches: [ "main" ]
  pull_request:
    branches: [ "main" ]
```

For the development branch:

```
on:
  push:
    branches: [ "development" ]
  pull_request:
    branches: [ "development" ]
```

The Build

In both pipelines we use an Ubuntu build container to run the build job.
As in the development we use maven as our dependency manager and jdk 17.

```
steps:
    - uses: actions/checkout@v3
    - name: Set up JDK 17
      uses: actions/setup-java@v3
      with:
        java-version: '17'
        distribution: 'temurin'
        cache: maven
    - name: Build with Maven
      run: mvn -B package --file pom.xml
```

The Testing

xxxxxxxxxx @GetMapping("/reset") public ResponseEntity MessageReset() { if(apiMessageDefault.isBlank()) { return new ResponseEntity<>("Default message is not set.", HttpStatus.INTERNAL_SERVER_ERROR); } currentApiMessage = apiMessageDefault; return new ResponseEntity<>(currentApiMessage, HttpStatus.OK); }java

```
    - name: Build with Maven
      run: mvn -B package --file pom.xml
```

The Download

To be able to download the build artifact the pipelines are finished with the following settings:

```
    - name: Copy built jar
      run: mkdir download & cp target/*.jar download

    - name: Upload a Build Artifact
      uses: actions/upload-artifact@v2
      with:
        name: Main-Build
        path: download
```