FEM31002/21045: CodeGrade Instructions for the Assignment

This document is intended to be a complement to the assignment instructions in *instructions_assignment.pdf*, so please make sure to read them carefully before studying this document.

In this document, we explain how you can link your group's GitHub repository to CodeGrade and how to register your group in CodeGrade. We assume that you have followed the instructions in video (or the corresponding slides "Introduction_to_GitHub.pdf"), which means that (1) you have already organized yourselves into groups (ideally of size four), (2) one of your group's members has created a GitHub repository through GitHub classroom, and (3) the remaining group members have registered as team members in GitHub Classroom. Since there is only one repository per group, only the member who has created the repository (the repository's owner) must link the repository to CodeGrade.[1] On the other hand, all group members must register themselves in their corresponding group.

The deadline for registering your group in CodeGrade is September 15, 2022, at 10:00 AM. We therefore recommend that you start working through this document's instructions soon.

In case you experience issues with the process described below, please post it in the dedicated Canvas discussion page. We will try to help you there. In addition, we will organize an office hour to help you link your group's repository and register your group in CodeGrade. This office hour will be held on Wednesday, September 14, 2022, at 10:00–11:00 AM, in room ET-28 (downstairs in the E-building). Please only attend this office hour if you have experienced serious issues that could not be resolved through the Canvas discussion page.

On page 13, you will find a checklist that summarizes this document's contents.

(Instructions start on next page)

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[1] Even after allowing for all cookies may not get this operation to work in some browsers. For example, we couldn't get it to work in Firefox on a MacOS machine.

Registering your Group in CodeGrade

The following steps register your group in CodeGrade and must be performed by all of your group's members. The deadline for group registration in CodeGrade is September 15, 2022, at 10:00 AM. Please do not create groups in Canvas.

1. Go to the assignment in Canvas; you will see an embedded CodeGrade tool. In this tool, click on "Groups" (marked in red in the screen below).
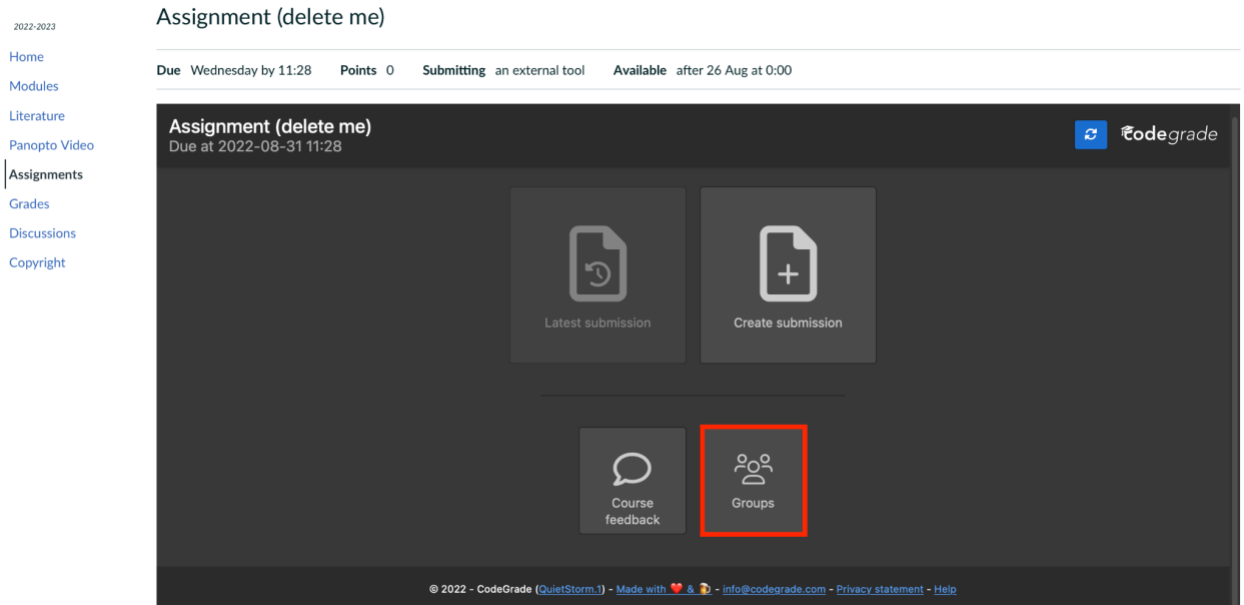
2. You will see the following overview of existing groups and their members. One member of your group should create a new group (by clicking on "create new group"; please coordinate this among yourselves). After this has been done, please join your corresponding group (you may need to refresh the page). Please note that newly generated groups are assigned automatically generated names.
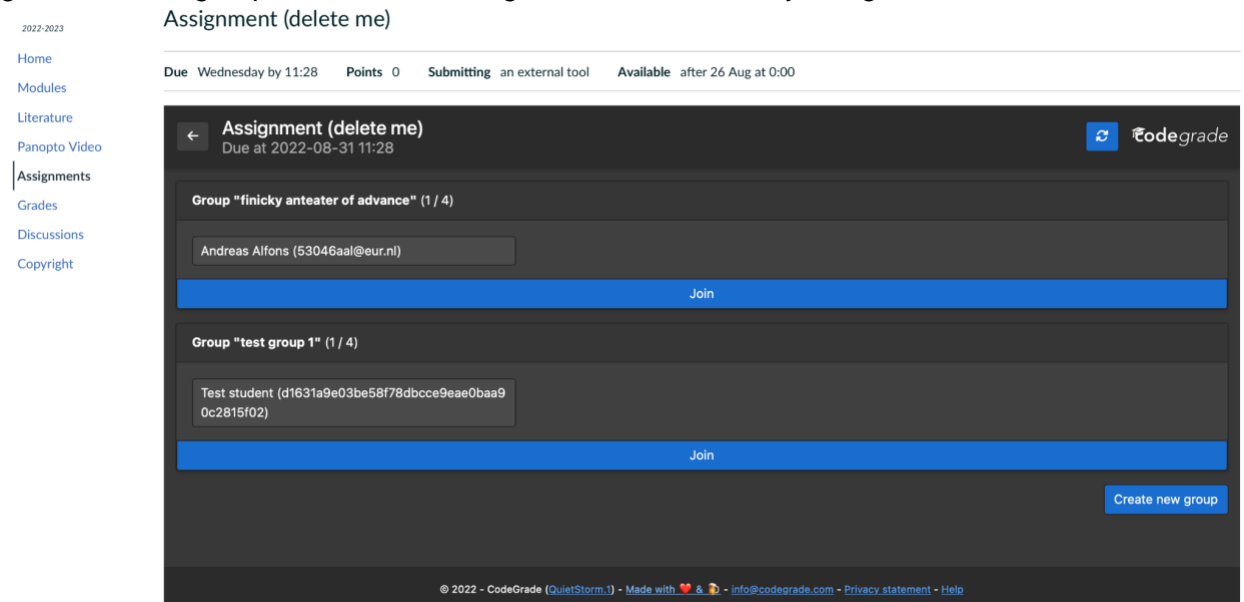
3. After you have joined a group, you will see the following interface. You can use this interface to remove yourself from a group (in case you have accidentally joined the wrong group) by clicking on the little cross next to your name. In addition, you may change the name of your group by clicking on the little pen icon in the top right corner.


4. Congratulations, you are done with registering your group! If you are the owner of your group's repository, please complete the introductions starting on the next page. If you are not the owner if your group's repository, you are done with everything you are supposed to do in CodeGrade.

Linking a GitHub repository to CodeGrade

Please only follow the following steps if you are the owner of your group's GitHub repository. If you are *not* the owner of your groups' repository, please skip the following instructions. If you are the owner of the owner of your groups' repository, please complete the following steps until the group registration deadline on September 15, 2022, at 10:00 AM.

We assume that you have registered yourself as a member of your group in CodeGrade by following the previous instructions. We additionally assume that you have cloned your group's repository to your machine. Please ensure that the cloned repository is up-to-date by doing a `git pull` command before you start with the following instructions..

1. Go to the assignment in Canvas; you will see an embedded CodeGrade tool. In this tool, click on "Create submission" (marked in red). Despite its name, this will not create a submission, but connect your GitHub repository to CodeGrade, so you will not yet submit the assignment at this stage.
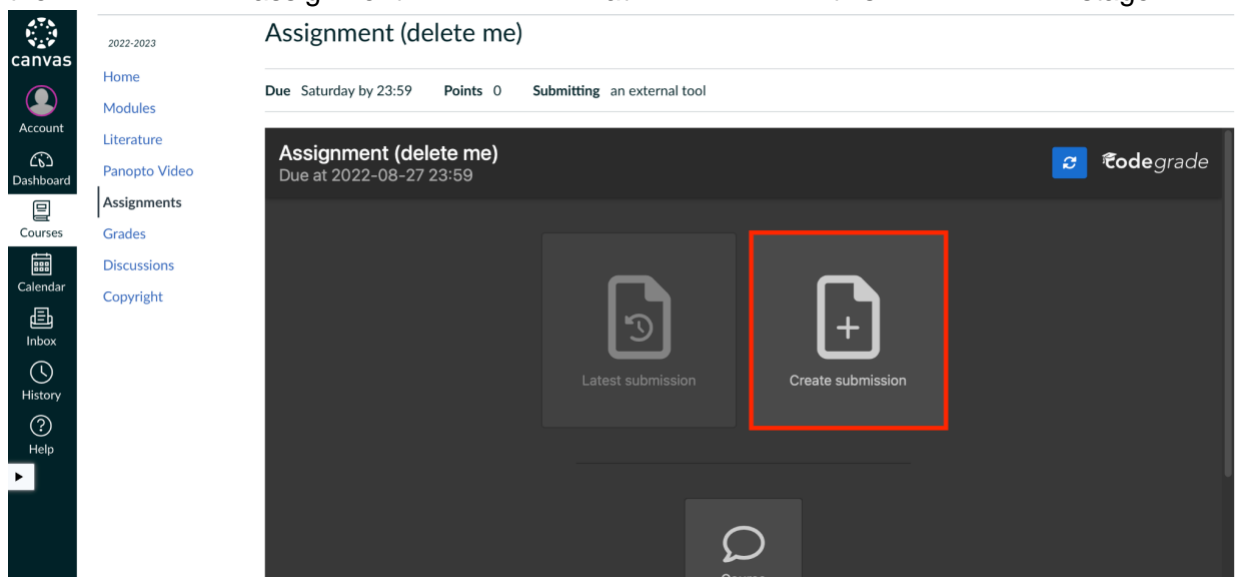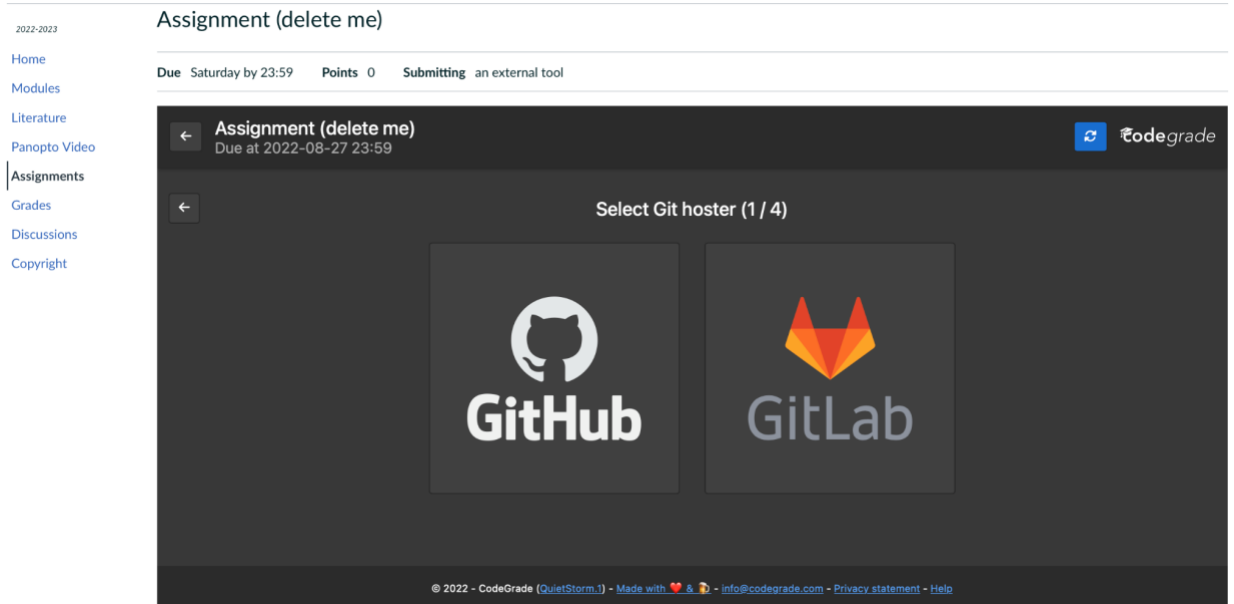

(instructions continue on next page)

2. In the next screen, you will be asked to choose your Git hoster. We use GitHub, but we have noticed that selecting "GitHub" in the screen below may not work because of your browser's cookie settings. In this case, you will be redirected to an error page notifying you of incompatibilities with your browser's cookie settings. This happens because selecting "GitHub" in the screen below typically requires you to allow all cookies in your browser, which is an undesirable setting.[2] You can try to **temporarily adjust your browser settings** (then don't forget to change them back again when you're done). But there is also a manual workaround that does not require specific browser settings. Either way, there are two possibilities when you select "GitHub" in the screen below.

   a. Possibility 1: Selecting "GitHub" in the screen below works with your browser settings. In this case, you will be redirected to GitHub, where you will be asked to authorize CodeGrade to link a repository (possibly after being asked to log in to GitHub first). Authorize CodeGrade to do that. You will then be asked which of your repositories you wish to link. Choose your group's assignment repository. You have now successfully linked your repository to CodeGrade. The procedure in this step is also described in this video (https://youtu.be/sa4Yc2sjaSk) which you may find useful. Please go to Step 12 on page 12.

   b. Possibility 2: Selecting "GitHub" in the screen below does not work and you are redirected to an error page. In this case, please do the following manual workaround that does not require adjustments in your browser settings. Select to manually connect your Git repository (marked in red in the screen below). Go to the next Step (Step 3).

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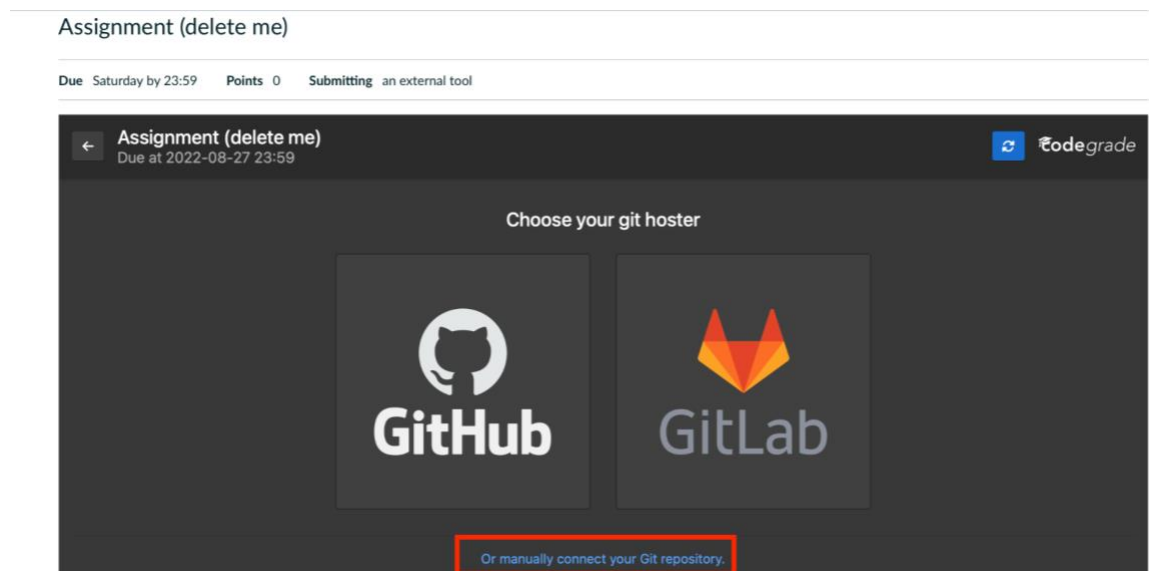
[2] If you have not yet found a group, please create a team on GitHub Classroom as described in "Introduction_to_GitHub.pdf", which will be a team of one (you). Throughout the remainder of this document, consider yourself as a group of one. Please note that groups of less than four members may be broken up into groups of four; see instructions_assignment.pdf for details.

3. After clicking on "Or manually connect your Git repository", you'll see the following screen. Select GitHub. Please note that this step and all subsequent steps are described in this video (https://youtu.be/rZ0zTcK8p0w) which you may find helpful.

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4. You'll be redirected to the following screen that contains a deploy key. We want to add this deploy key to your GitHub repository. Copy the deploy key to your clipboard (marked in red).

5. Open a new tab in your browser, go to GitHub.com, and go to your assignment repository in GitHub's web interface. Click on "settings" (marked in red).
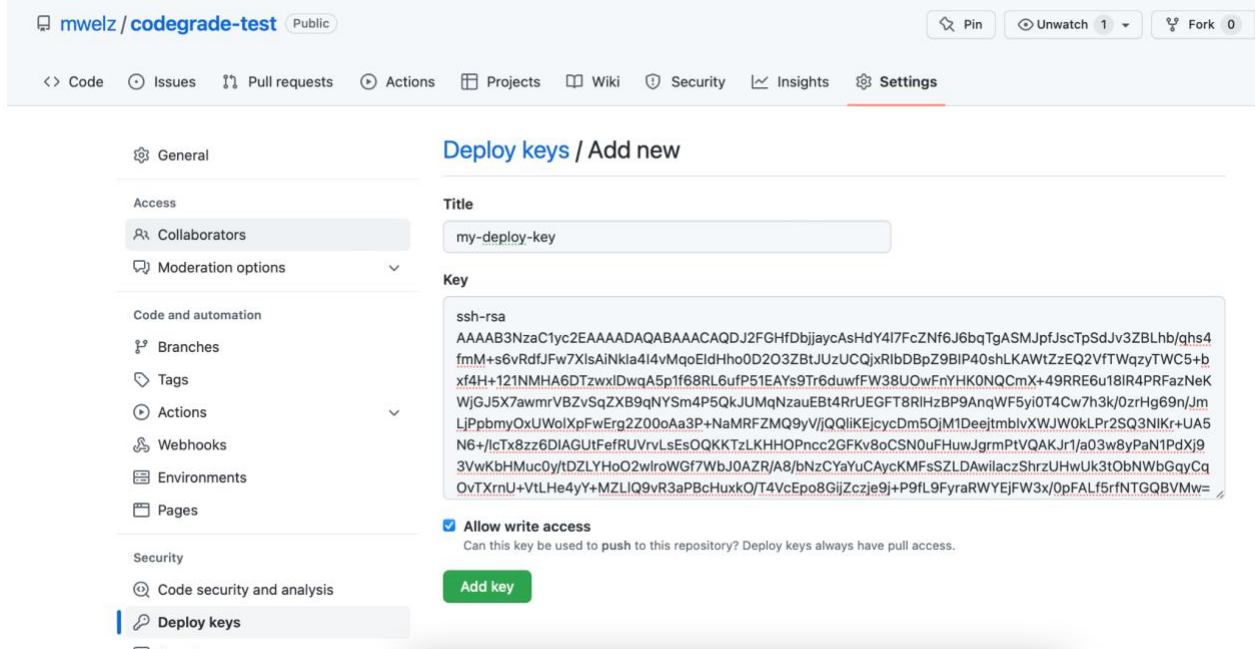

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6. In the left sidebar, choose "Deploy keys" and "Add new deploy key" (marked in red).
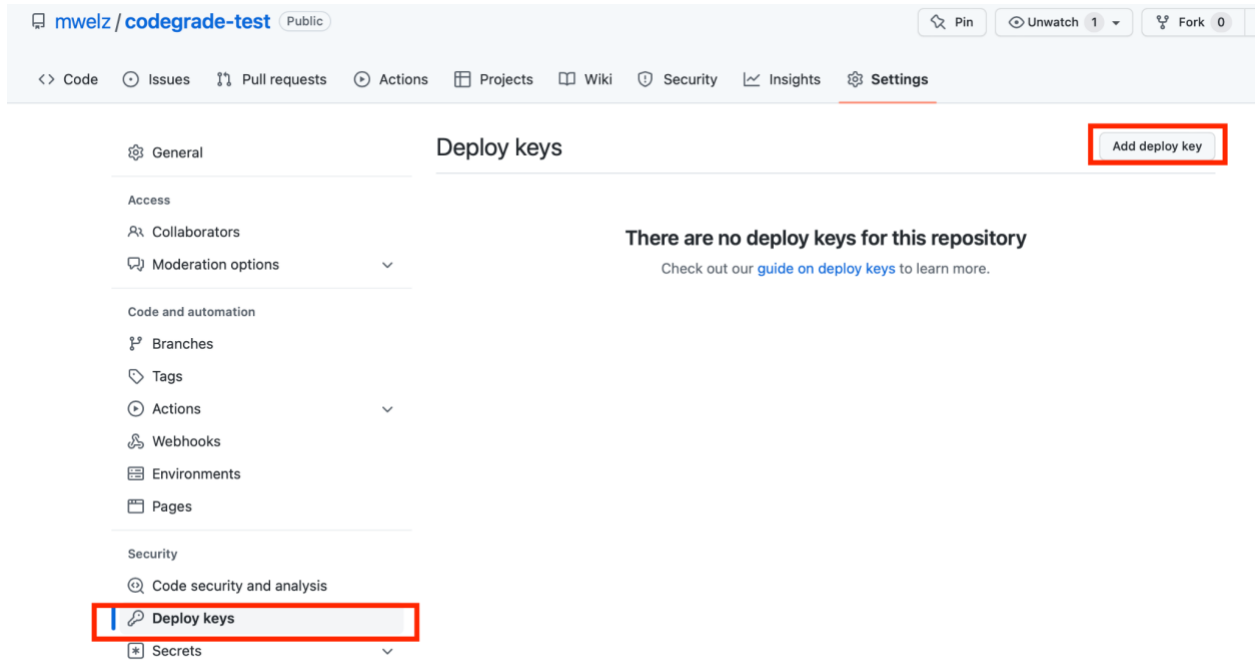

7. You'll see the interface shown below. Paste the deploy key from Step 4 to the "key field" and make sure to check "Allow write access" (this is important!). Optionally, you may choose to give your deploy key a name. When you are done, click on the green "Add key" button.
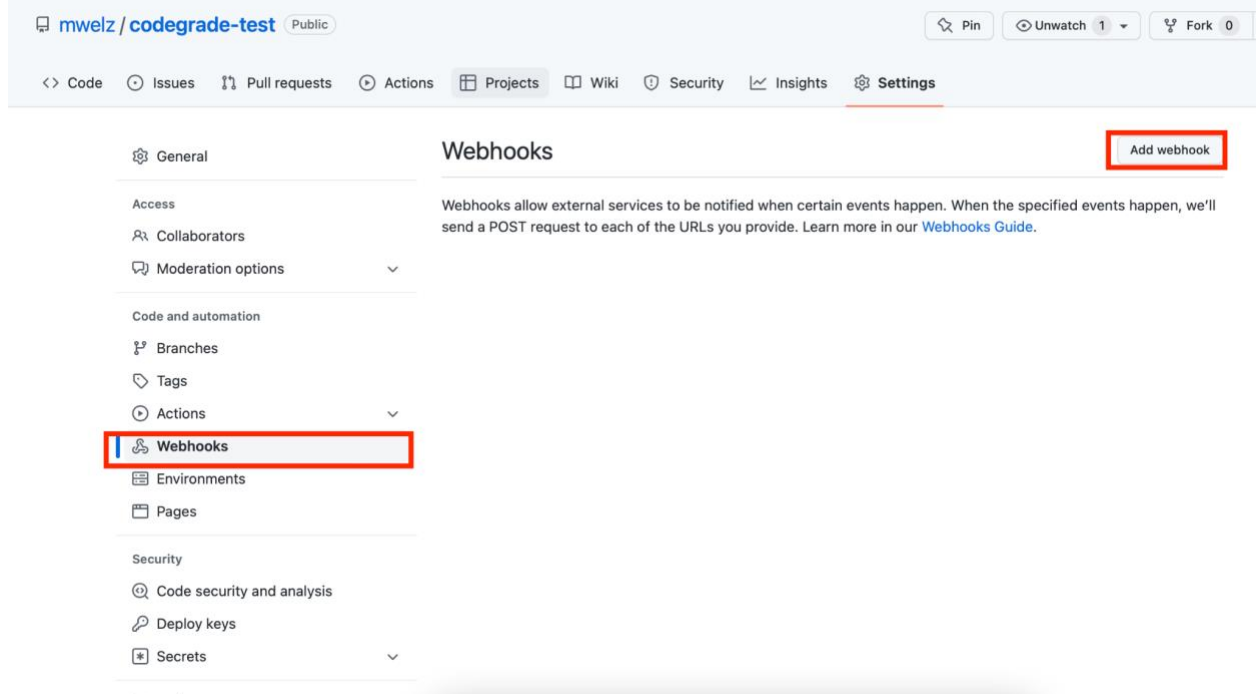

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8. Go back to the tab in your browser that has Canvas open and navigate to the next step in the CodeGrade embedding (via the gray arrow in the top right corner), which looks as follows:
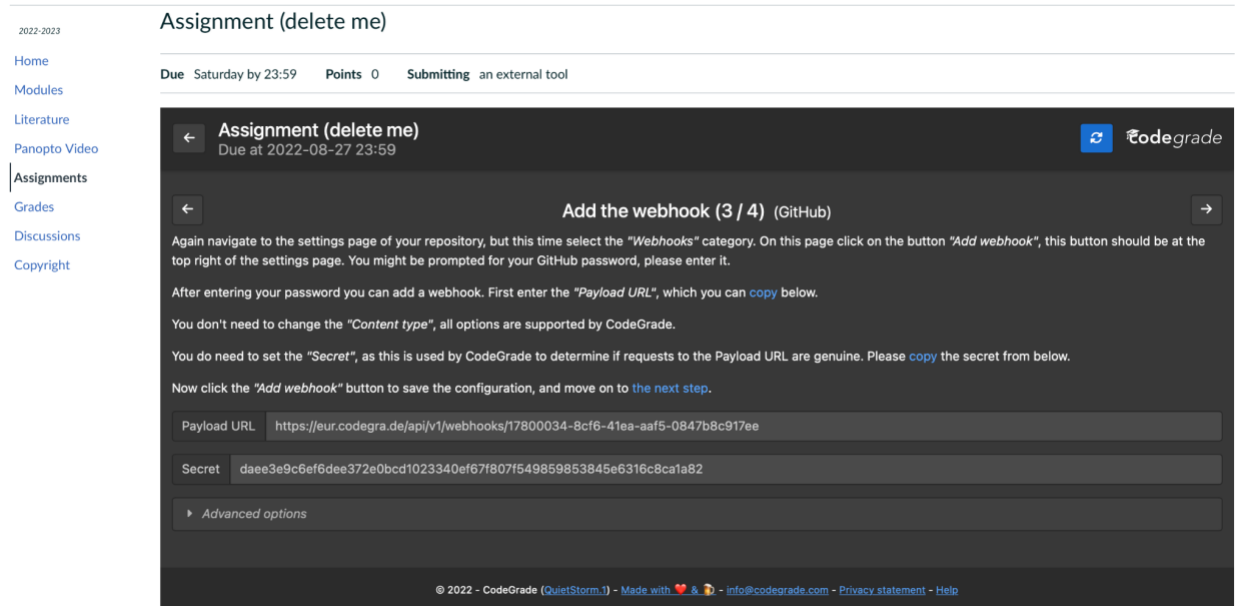
9. Go back to the browser tab that has GitHub open. Like in Step 5, go to "Settings" and choose "Webhooks" and "Add webhook" (marked in red):

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10. You'll see the following interface. Copy and paste both the "Payload URL" and the "Secret" from Step 8 (from CodeGrade) to the corresponding fields in the GitHub page. Choose to enable SSL verification, check "Just the push event" and "Active", and click on the green "Add webhook" button (see screenshot below).

General

Access

Collaborators

Moderation options

Code and automation

Branches

Tags

Actions

Webhooks

Environments

Pages

Security

Code security and analysis

Deploy keys

Secrets

Integrations

GitHub apps

Email notifications

Webhooks / Add webhook

We'll send a POST request to the URL below with details of any subscribed events. You can also specify which data format you'd like to receive (JSON, x-www-form-urlencoded, *etc*). More information can be found in our developer documentation.

Payload URL *

https://eur.codegra.de/api/v1/webhooks/17800034-8cf6-41ea-

Content type

application/x-www-form-urlencoded ⇅

Secret

daee3e9c6ef6dee372e0bcd1023340ef67f807f54985985384!

SSL verification

🔒 By default, we verify SSL certificates when delivering payloads.

🔘 **Enable SSL verification**   ⚪ **Disable** (not recommended)

Which events would you like to trigger this webhook?

🔘 Just the push event.

⚪ Send me **everything**.

⚪ Let me select individual events.

☑️ **Active**
We will deliver event details when this hook is triggered.

Add webhook

(instructions continue on next page)

11. Go back to the tab in your browser that has Canvas open and navigate to the next step in the CodeGrade embedding, which is shown in the screenshot below. You can check if your configuration was successful by following the steps indicated there. Specifically, in your cloned repository, do the following command: `git commit --allow-empty -m "Create a CodeGrade submission" && git push`
This will create a test commit and push it. Once you have done that, click on the "Check for new Git submission" button in the bottom right of the CodeGrade embedding. If everything has been set up correctly, a green prompt with "A new Git submission was found!" will appear on Canvas.

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12. Congratulations, you have successfully connected your GitHub repository to CodeGrade! This means that your repository's main branch has been sent to CodeGrade and all changes to the main branch will be automatically sent to CodeGrade. Please double-check that the repository has been successfully cloned to CodeGrade by going back to the Canvas Assignment page and selecting "Latest submission", which shows you the main branch of the assignment repository as it is on GitHub. Please do not click on "Create submission" again, as you have already connected your assignment repository and you are only allowed to have one such repository. You are now done with linking your repository to CodeGrade. You do not need to return to CodeGrade throughout the assignment period.

Assignment (delete me)

(there is a checklist on the next page)

Checklist

- o I have registered myself in my group in CodeGrade. Deadline: September 15, 10:00 AM.
- o *[Only applicable to repository owners]* I have successfully linked my group's GitHub repository to CodeGrade by following the instructions in this document. Deadline: September 15, 10:00 AM.
- o *[Only applicable to repository owners]* Shortly before the assignment submission deadline on October 9, I have double-checked that the repository that I wish to submit has been successfully synchronized to CodeGrade by inspecting my "latest submission" on Canvas; see below. This should be a one-to-one copy of the main branch as it is on GitHub.