Canvas++ User Documentation
and Installation Instructions
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1. Introduction

The Canvas++ system provides the user, a student of any grade, with a readily-available Chrome extension. This extension gives the user easy access to the core components of the Canvas website, without any need for the user to navigate away from their current task or spend time searching for the information on the Canvas site itself. More specifically, Canvas++ allows students to:

- View any upcoming assignments and their respective due dates for any course the user is currently enrolled in.
- View announcements for courses that a user is currently enrolled in.
- Use a built-in grade calculator to check for "what-if" grades (functional, but not completely implemented in this version).

2. Installation Instructions

2.1 Clone the GitHub Repository
1. Go to the Canvas++ repository on GitHub.
2. Click on the green dropdown button labeled **"<> Code"** to download the repo using your method of choice.
3. After successfully downloading the repo to your local machine, you will now be able to load up the extension in a Chrome browser.

2.2 Loading Chrome Extension
1. In a Chrome browser window, go to chrome://extensions.
2. In the upper left corner, click on "Load unpacked."
3. Select the folder the Canvass++ repo is located in and open it. You should see a small pop-up in the bottom left corner of your screen labeled "Extension loaded."
4. In the upper right corner of your screen, click on the puzzle piece icon to find the extension and click on it to open. You may choose to pin the extension for quick access.

2.3 Give Temporary Access

To work around some restrictions on the Canvas API requests, we use the cors-anywhere API to enable cross-origin requests to any link by using a demo server. Without this, our requests to the API are blocked.

1. Go to the corsdemo page.
2. Click on the button labeled "Request temporary access to the demo server."
3. The text "You currently have temporary access to the demo server" should appear. If at any time the prototype suddenly breaks, check if this page displays the bolded text. If not, you will need to grant access once again by clicking the button from step 2.
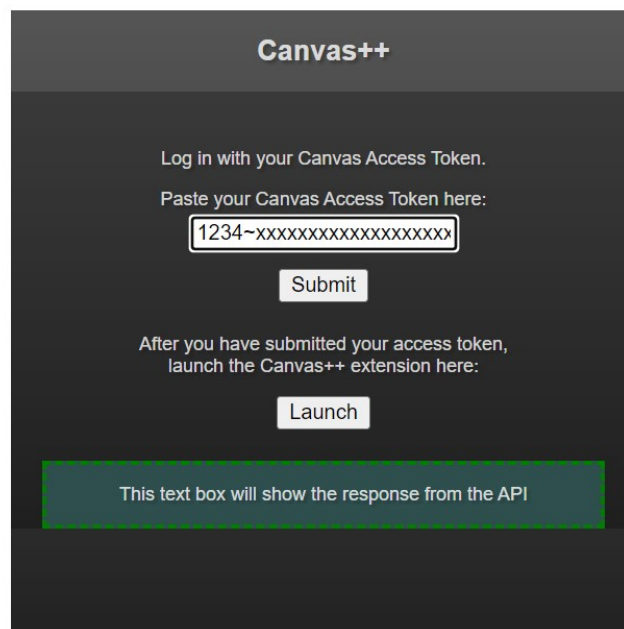
2.4 Generate Access Token

An access token is used as a way of identifying the user that is making requests to the Canvas API. The token can be deleted or regenerated at any time.

1. Log onto Canvas.
2. Click the "Account" link in the left side panel.
3. Click on "Settings."
4. Under the "Approved Integrations" section, click the "+ New Access Token" button to generate a new access token.
5. Make sure to save this token. You cannot view it again after leaving the page, and you'll have to generate a new token if you forget it.

3. Login To Canvas++

Logging in to Canvas++ is required for any of the tasks that users can do with the extension (see tasks below), just like how logging into Canvas is required to use the features of the actual site.
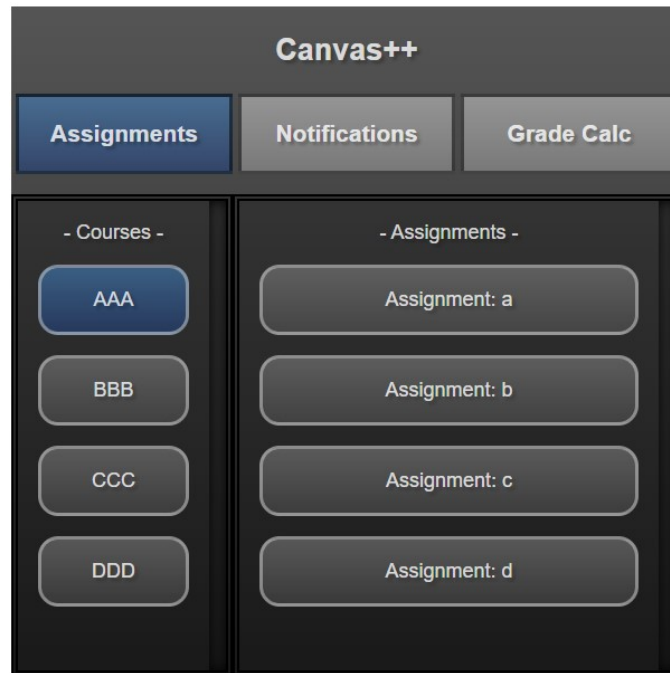
1. Make sure you have generated a valid Access Token from the Canvas website (see installation instructions above). This token will be used to authorize the API requests to the Canvas server.
2. Paste your Access token into the input box and click "Submit." This stores your token in the chrome extension's local storage.
3. Click the "Launch" button. If successful, you will be redirected to the main Canvas++ interface.
4. If an error occurs, it will print out inside the green box under the Launch button. A common error will be "The 403 error often arises from CORS issues," which can be fixed by going to the corsdemo page and renewing temporary access to the demo server.

Figure 1. Canvas++ Log-In Screen

4. Task One: View Assignments:

1. Select a course by clicking the desired course code from the leftmost menu. Upcoming assignments for the course will populate the right menu.
2. Click any of the assignment buttons to view the due date and other specific information about the assignment.
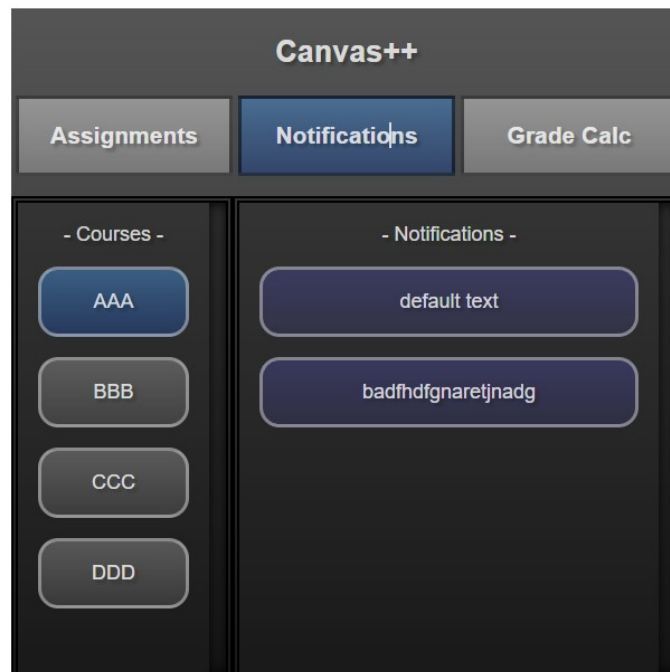

Figure 2. Canvas++ Assignments Screen (filled with dummy data)

5. Task Two: View Notifications

The notifications tab allows users to see recent activity from the classes in which they are currently enrolled. While looking at a specific course, the notifications list will be recent activity from the teacher of the course, such as announcements. This provides an easy interface for a student to see new information that the teacher is sending to the students. Many people do not have notifications turned on for Canvas, and this tab will be useful for those who need to easily check on recent updates to course information.

Task steps:
1. Select a course by clicking the desired course code from the leftmost menu.
2. Click on the "Notifications" tab at the top of the window. Recent notifications for that course will populate the right menu, with the most recent notification at the top.
3. Click any of the notification buttons to view the full message from the teacher.

Figure 3. Canvas++ Notifications Screen

6. Task Three: Calculate Potential Grades:

The Canvas++ grade calculator allows users to see how their overall grade in the course changes depending on what score they get on individual assignments. Unfortunately, Canvas++ cannot get real-grade data from a Canvas account, likely due to the security features of the Canvas site. For this version of Canvas++, dummy data is displayed.

Task steps:

1. Select a course by clicking the desired course code from the leftmost menu.
2. Click on the "Grade Calc" tab at the top of the window. In addition to the overall grade for the course, (fake) assignments will populate the right menu, along with the score the user got for that assignment, the score the assignment is out of, and the resulting percentage.
3. If you wanted to say, input a hypothetical score for the first assignment listed, enter a new score in the input field. The display will update to reflect this new assignment score.
4. If you want to revert an assignment score you have changed to its original value, simply select the score in the desired input field and delete it. The original score will return

Figure 4. Canvas++ Grade Calculator Screen (dummy data)