Towards a Continuous Integration of Canvas LMS REST API Scripts

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Canvas LMS has a REST API[1].

The REST API allows for reliable automation (scripting) of tasks that would otherwise be a laborious human chore when using the web-browser-based user interface. For instance, sorting students into sections and groups based on some given criteria, batch download of student submissions, or batch upload of feedback and grades. In general, the REST API enables automated course management and grading.

Using the REST API is not straight-forward for all teaching staff, so to leverage the benefits that it can provide across many courses, scripts written, battle-tested, and hot-fixed on one course can be shared with another. Although battle-testing and hot-fixing is great, it is far from a viable software development methodology. We would like to see these scripts become subject to continuous integration with automated testing.

Testing such scripts is currently *possible*: Manually create a hidden course. Add some willing *real* system users as dummy students, teaching assistants, and teachers. Finally, in the interest of not overwhelming the current system setup, manually conduct small-scale tests while coordinating with said *real* users. This is a laborious human chore, and it does not scale.

Hence the following requests:

1. Would it be possible to set up a sandboxed environment, which is morally equivalent to the current, publicly facing Canvas LMS setup at the University of Copenhagen, where we can conduct such automated tests of our automation scripts?

2. If not, the main shortcoming of the manually-created-course approach is the need to use real users. Would it be possible to get a dedicated pool of dummy users for such purposes?

   Also, to what extent can we abuse such manually created courses? Is there a limit on how many we can have, how many times we can create sections, groups, assignments, etc. within such courses?

[1] https://canvas.instructure.com/doc/api/index.html