

CS 2400 GitHub Classroom

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GitHub Classroom

Objectives

- Simplify assignment distribution & submission
 - Distribute starter code
- Use *git* early (simple commands)
 - *clone, add, commit, push*
- Introduce automated testing early

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Prerequisite

- GitHub Teacher Account
- <https://education.github.com/teachers>

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GitHub Organization

- Use organizations to keep all students' repositories private and in one place
- **Recommendation:** One organization per class
- Create teams
- Add TA's as owners

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- Linked to an organization
- Create assignments
 - Individual
 - Group
- Students are given a link to accept the assignment
 - Automatically creates a template repository with starter code (if configured)

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My Template Structure

- **README.md**
 - Includes student's name and id
 - Includes *git* instructions (cloning and editing)
- Empty **.cc** file
- **Makefile**
 - Create the executable and run the tests
- A test directory "**_TEST**"
 - **Catch2** unit testing header file
 - Test cases "**TEST_cases.cc**"
 - Script file "**run_tests.sh**" (if needed)

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GitHub Classroom, Cont.

- Track which students are working on the assignment
- Get direct link to the commits and repository
- Comment directly on code lines
- Create issues
- Private repositories owned by the teacher

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GitHub Actions (CI/CD)

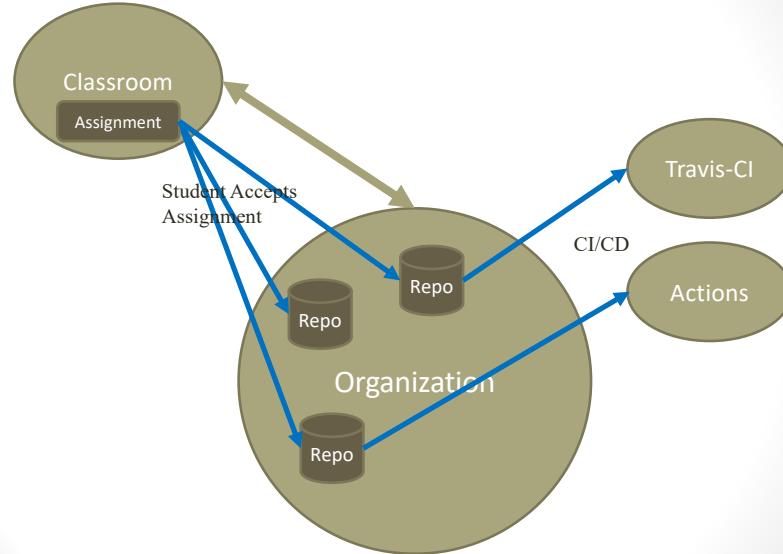
- New to GitHub
- Works like Travis-CI
- Part of GitHub workflow
- 10,000 action minutes per month per organization
- It seems faster

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Tips

- Include instructions in **README.md** file for cloning and getting started.
- Use simple *git* labs early in the semester
 - Two labs available
 - CS 2400, second week of classes
 - CS 2401
- Show them how to tag a user (@nasseeef)
- Encourage them to push often

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Tips

- Show the students the testing results
- Get them in the habit of sending a link to the repository or a line number when they have questions
- For more advance students (CS 4560):
 - Use issues, milestones, and projects

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