Validation/Linting Guide

What is a validator?
A validator is a tool to “check the validity or syntactical correctness of a fragment of code or document”. This ensures that the computer understands how to run your program. This does not check the style/code quality of your program.

What is a linter?
A linter is a tool that analyzes code to both validate and “flag programming errors, bugs, stylistic errors, and suspicious constructs”. This ensures that your program is valid, easily readable by humans, and catches some bugs even before running your program.

GitLab Validators/Linters

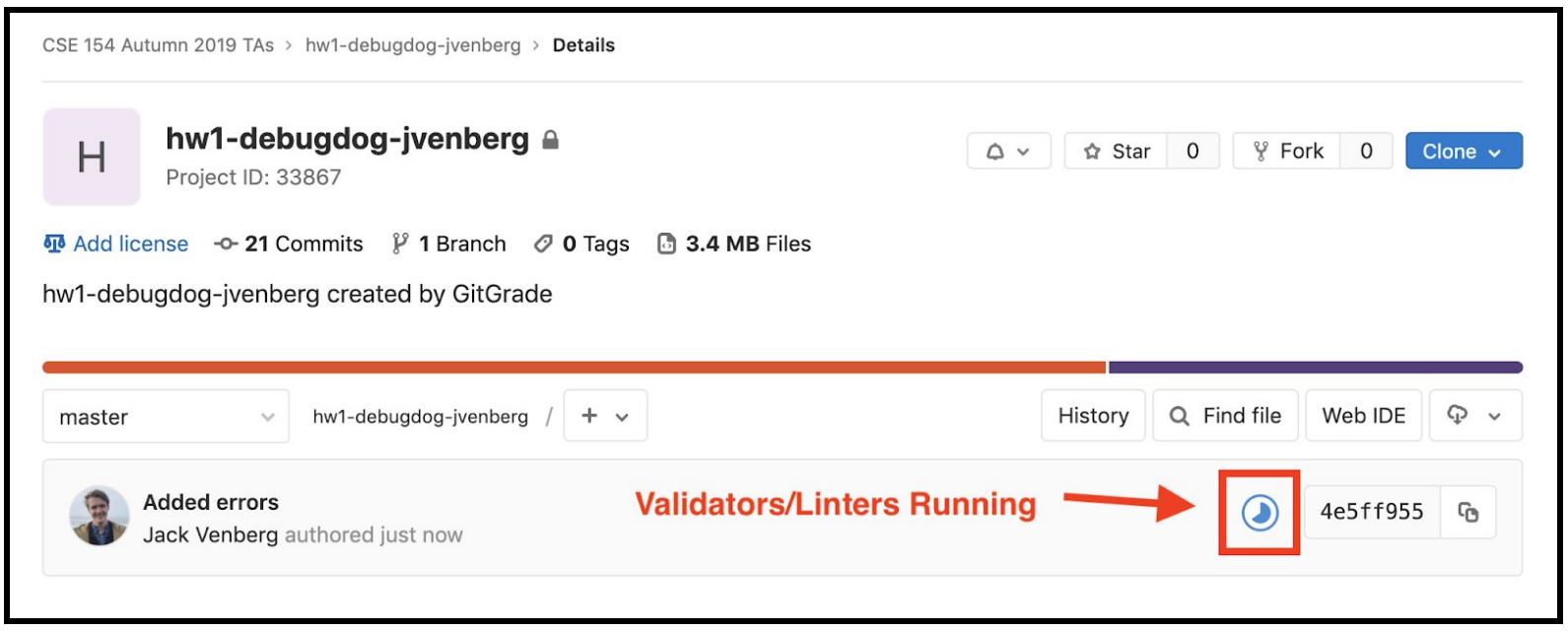
In this class, we run both validators and linters on your source code. However, it is important to know the distinction between the two. A validator will ensure that your code is syntactically correct, and a linter will ensure that your code is both syntactically and stylistically correct.

Every time you commit and push your code to GitLab, these validators/linters are run on your code automatically. For HTML, we run W3C’s *validator*. For CSS, we run a *linter* called Stylelint. For Javascript, we run a *linter* called ESLint.

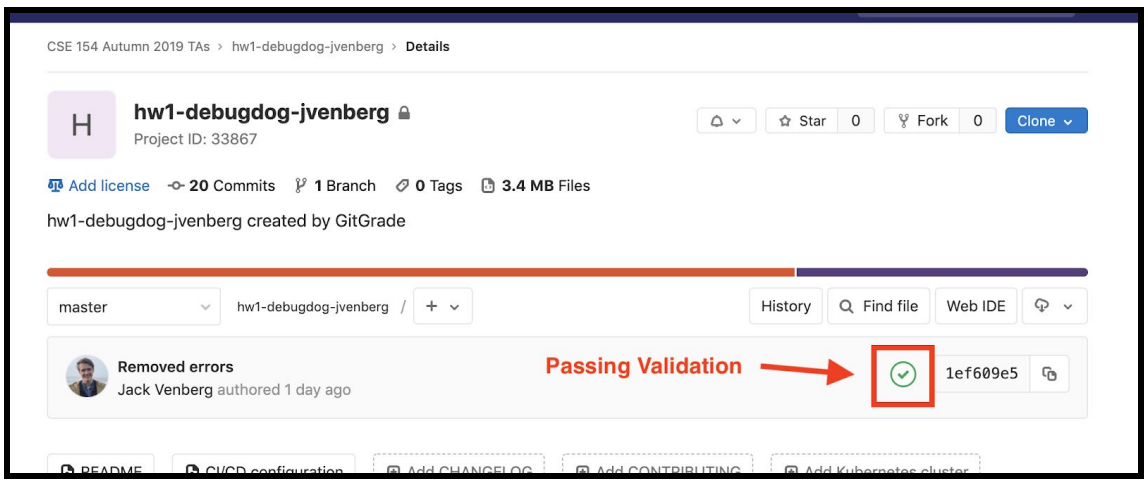
Your code must pass these validators/linters to be eligible for full points on your assignments. Since these tools can take a while to run, especially if a lot of people are pushing their code, make sure you leave plenty of time to get and implement the feedback from the validators/linters before the due date.

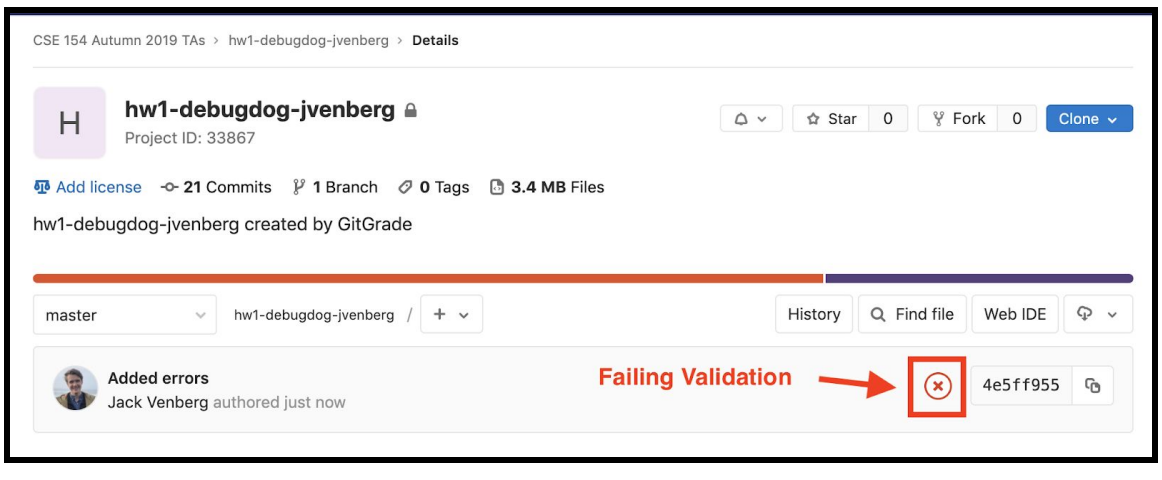
How to check if the linters/validators are passing for a particular commit?

Right after pushing your code to GitLab, you will see a loading icon on the main repository page.



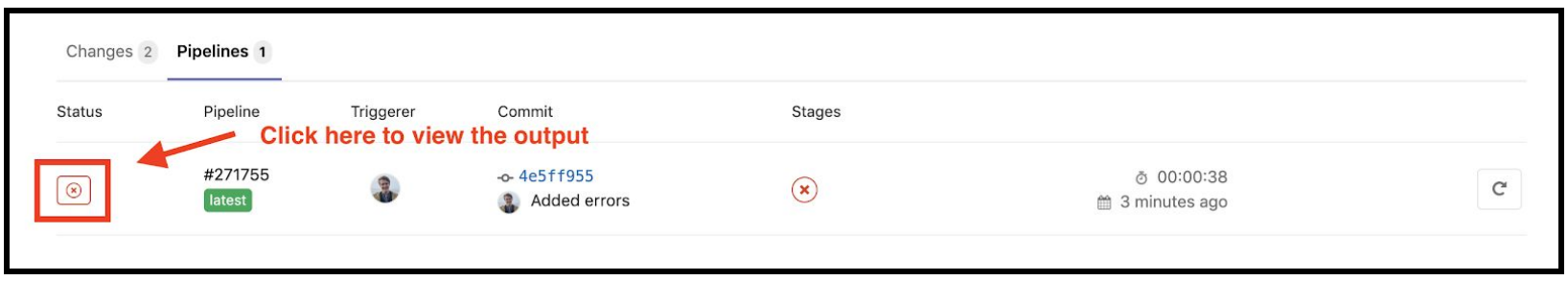
After around 30 seconds, the validators/linters will finish and the icon will either change to green for passing and red for failing.



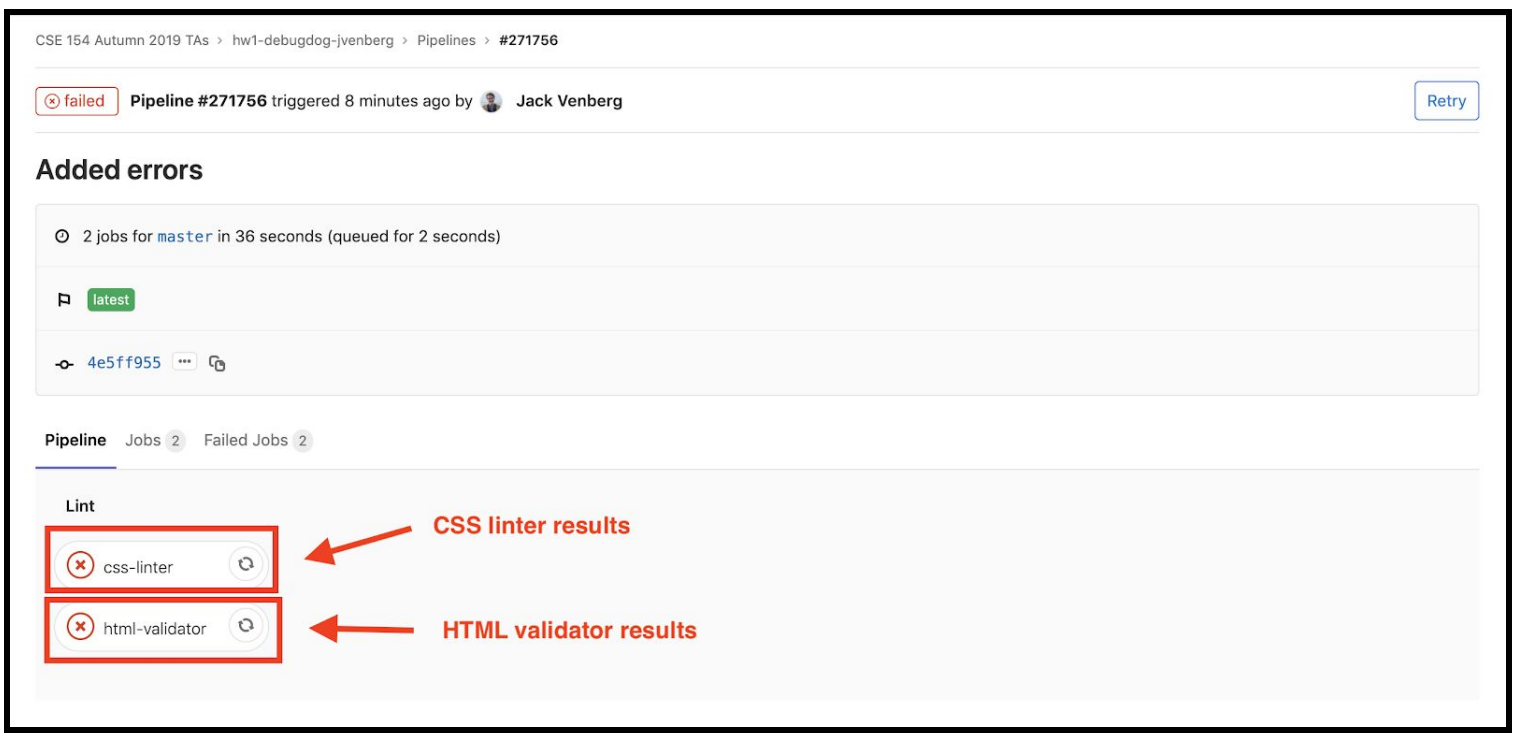


How to view validator/linter output?

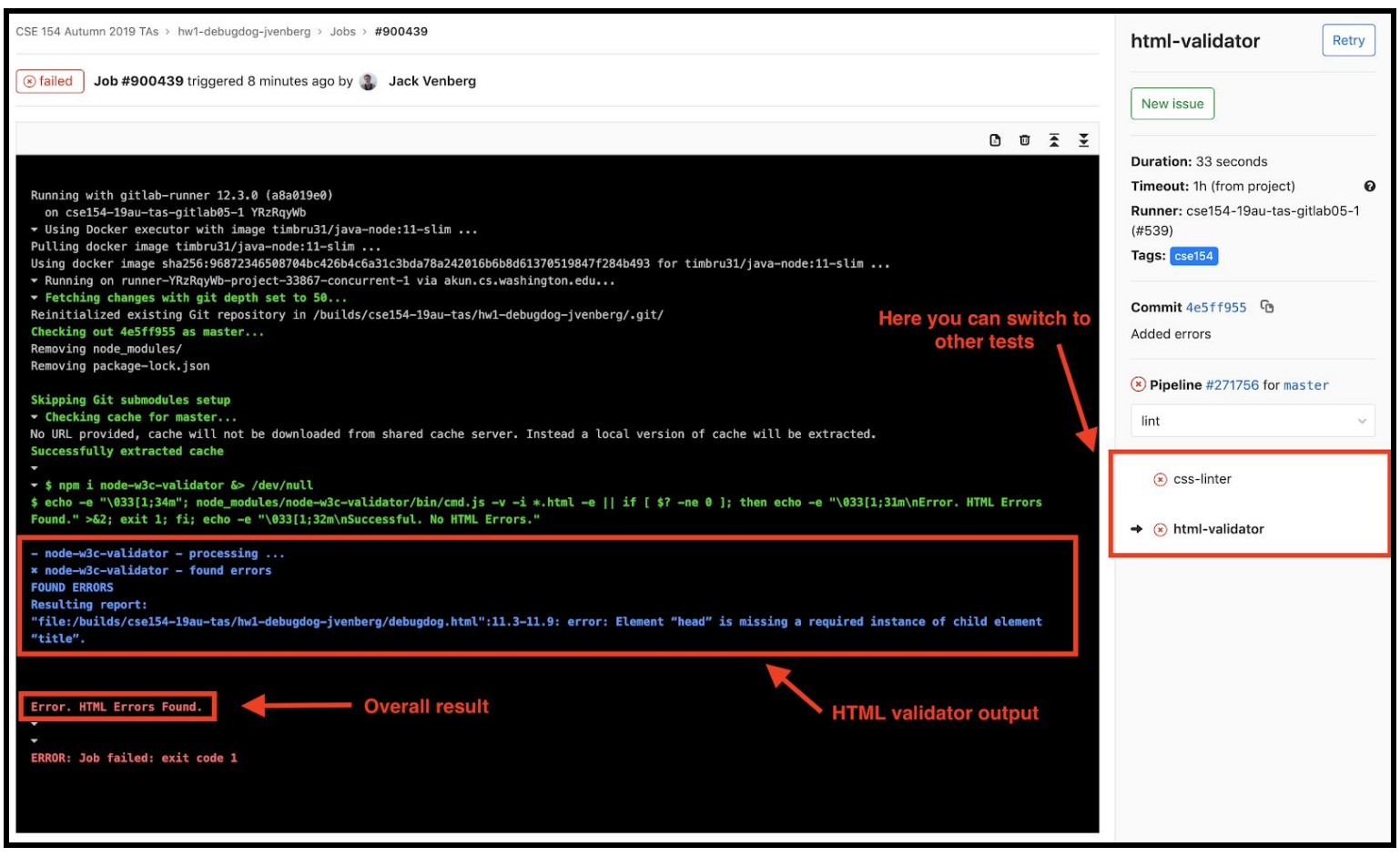
Clicking on the pass/fail icon in the previous images takes us to a list of the tests run on your code. By clicking on the status icon on the page shown below, it will take you to the results of the test.



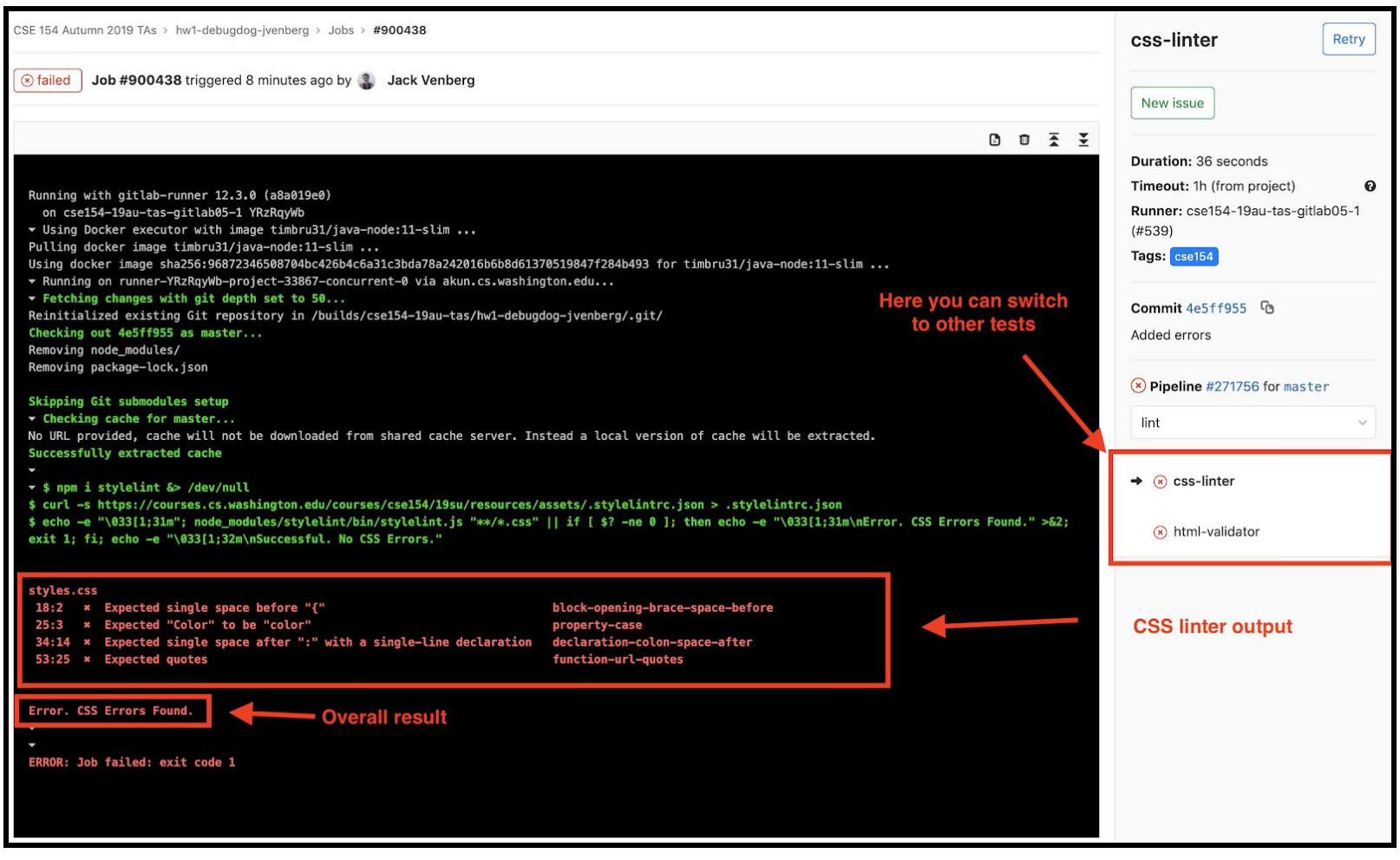
On the results page, you can view the individual output for each tool.



Here is an example of the failing HTML validator:

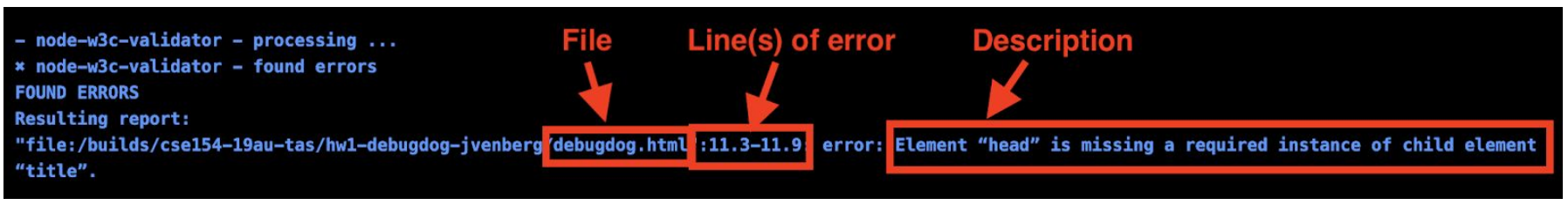


Here is an example of a failing CSS linter:



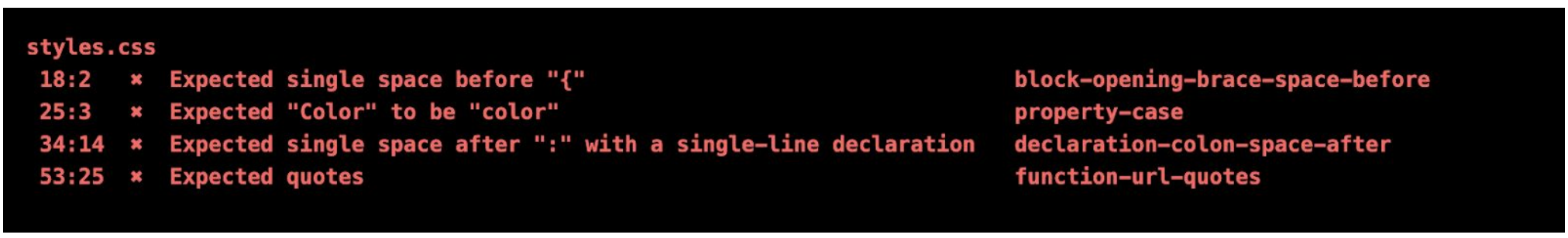
How to interpret the results?

HTML Validator Example



For the HTML validator, it will list all of the errors that it encounters. It starts with what file that it is referring to, then a range of the lines it found the error, then a description of the error. The range “11.3-11.9” means that it found the error from the 11th line of the file and the 3rd character from the left to the 11th line and the 9th character from the left.

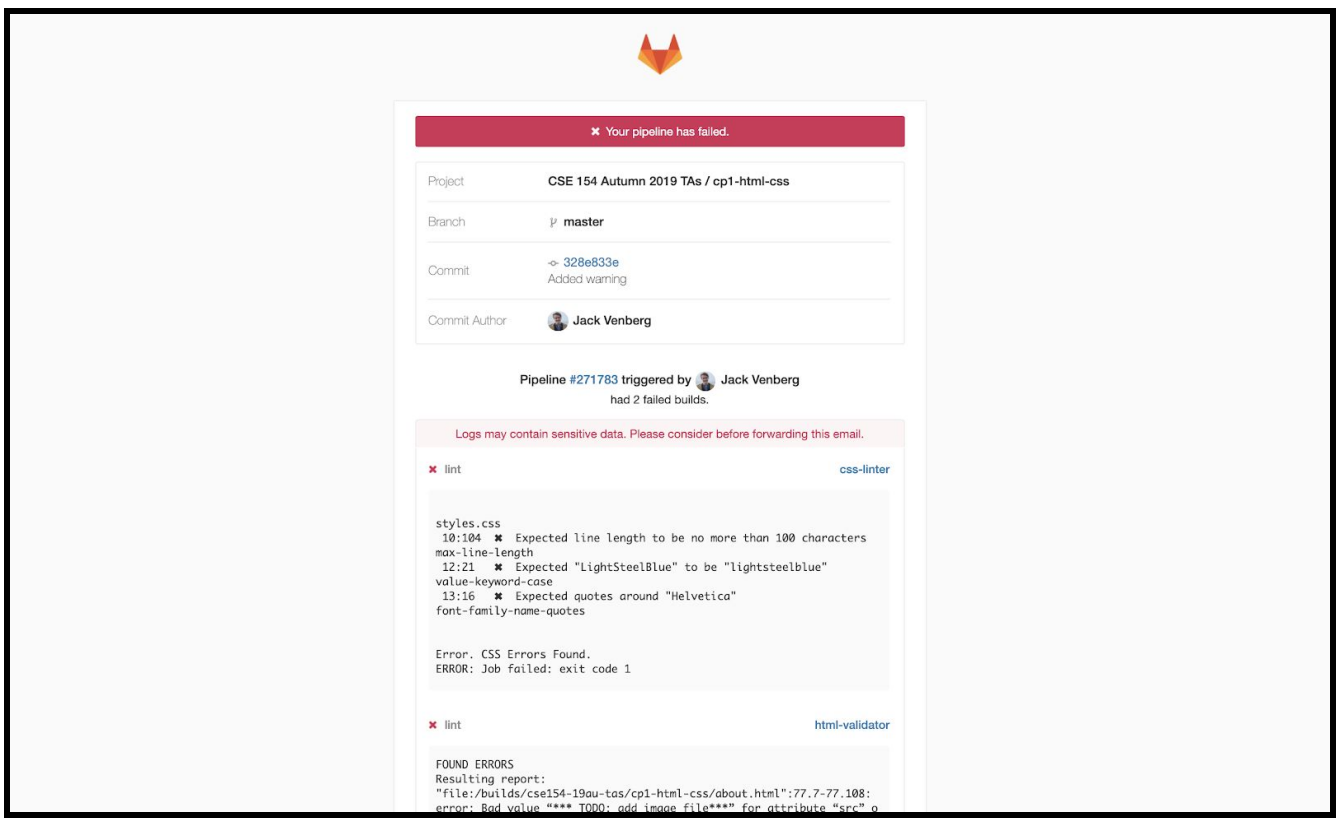
CSS Linter Example



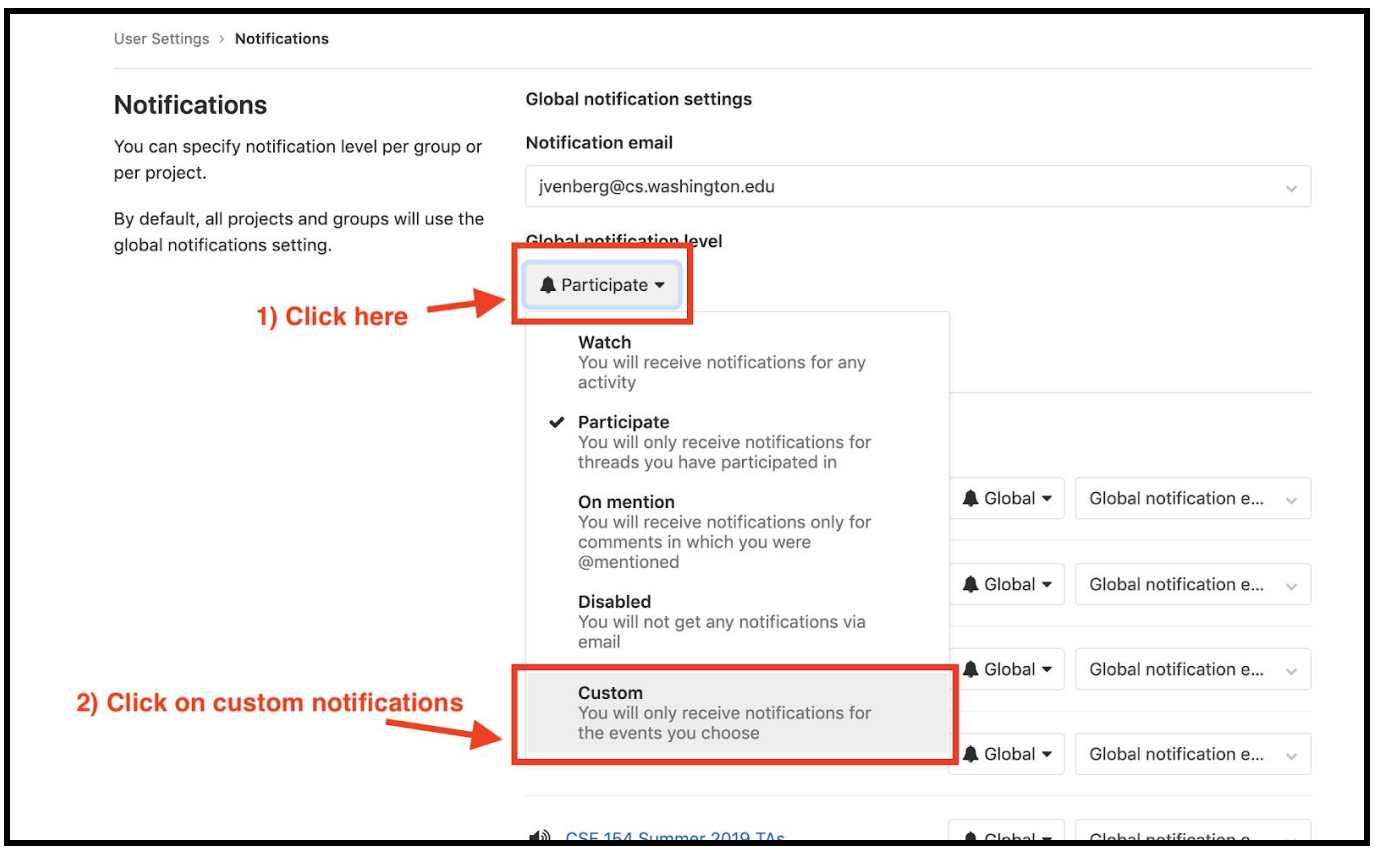
For the CSS linter, it will list the errors it encounters starting with the line number it found it at, then the description, then the name of the particular rule that it is failing. The line “25:3” means that it found the error on the 25th line and the 3rd character from the left. If you need more information on what is failing, please ask in Piazza or WPL/OH. You can also look up the rule on the linter’s website here to get more information on what is failing.

How to get email results on both error and success?

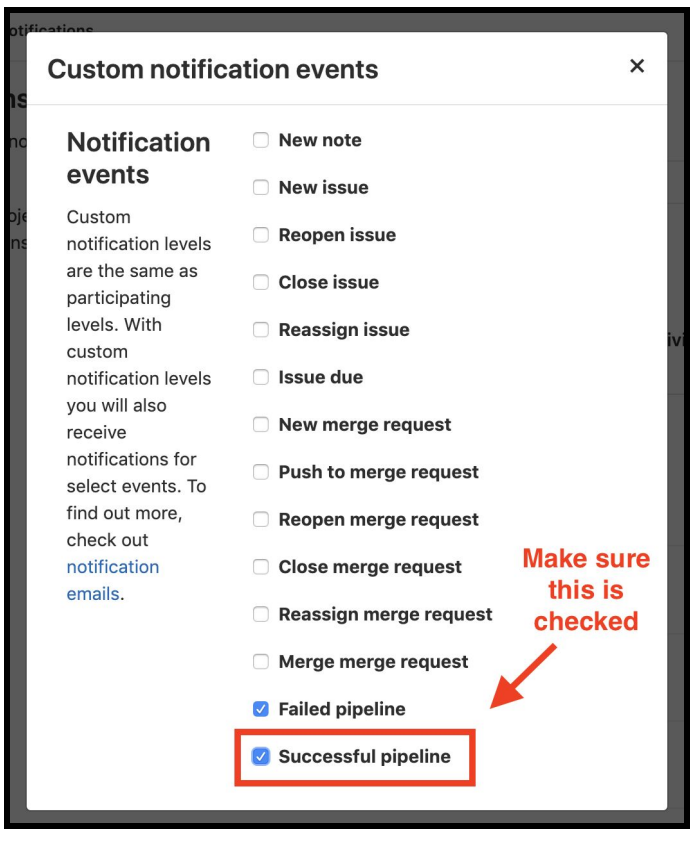
By default, GitLab will email you if your commit fails validation/linting like below.



However, if you want to get emails when your commit succeeds, you can enable those as well by going to the following link, https://gitlab.cs.washington.edu/profile/notifications, and click the custom notification button.



Then make sure that the “Successful Pipeline” option is checked.



Then, you should receive an email like this when your commit succeeds the validators/linters