

CS 320

ESLint Configuration Guide

Grading: Not Graded Individually. This is a guide to get ESLint running properly.

Task: Get ESLint configured to monitor your coding in IntelliJ IDEA.

1. Introduction

- a) In this exercise, I will walk you through the process of installing ESLint, the coding standards checker, and configuring IntelliJ to enforce the coding standards for our class. Note that your compliance with the CS320 coding standards will be part of the grade for all your upcoming source code submissions. So if you don't do this exercise, you will lose those points later.

::WARNING:: Things will look slightly different depending on if you use a Mac, Linux, or Windows. This guide was made on a computer running it in Windows.

2. Install ESLint

- a) **Install NodeJS and NPM:** To begin, you must install NodeJS, if you haven't yet, following the instructions for your OS at <https://nodejs.org/en/>. When completed, verify that the installation was successful by running the node and npm commands in a console:

```
node --version
npm --version
```

- b) **Install ESLint:** Now that you have node and npm installed, you can install ESLint. You can install it globally using the following command:

```
npm install -g eslint
```

Note that on a Mac, you need to preface this command with sudo because it needs write access to the /usr/local/lib directory. You can ignore any "npm WARN" messages. If you get "npm ERROR", that's a problem that needs to be solved.

- c) **Install ESLint Plugin Import:** We also need eslint-plugin-import. In order to do that, run the following command:

```
npm install -g eslint-plugin-import
```

As before, on a Mac, this command must be preceded by sudo.

- d) **Install AirBnB Javascript Style Guide configuration rules:** Now that we've installed ESLint along with the ability to import plugins, let's install a plugin that configures ESLint to enforce the AirBnB style guide for "basic" ES6 code. Use the following command (adding sudo on a mac):

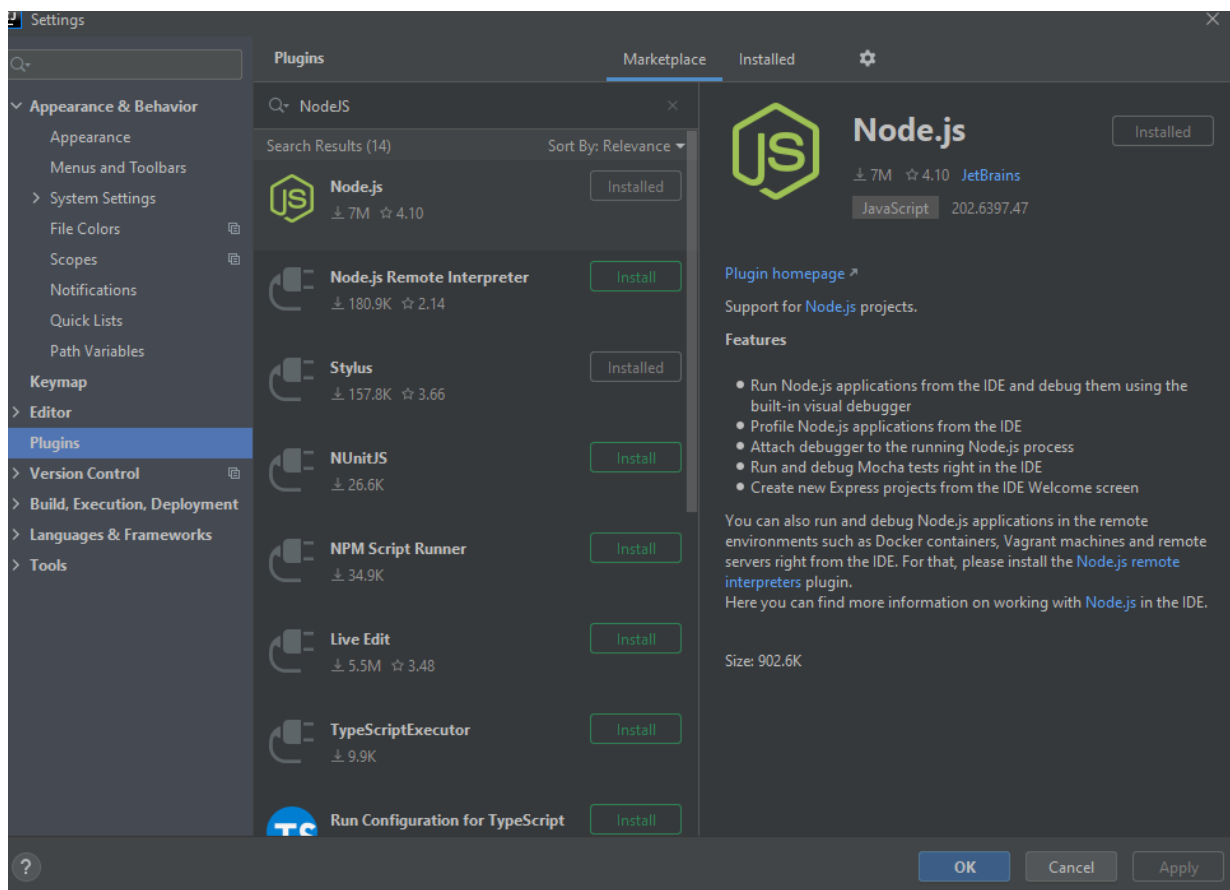
```
npm install -g eslint-config-airbnb-base
```

As before, you can ignore any "npm WARN" messages. If you get "npm ERROR", that's a problem that needs to be solved. Note that the AirBnB Style Guide package provides other plugins to enforce code style for React, JSX, and other Javascript libraries, but we don't need these at this point. So we only install the "base" package.

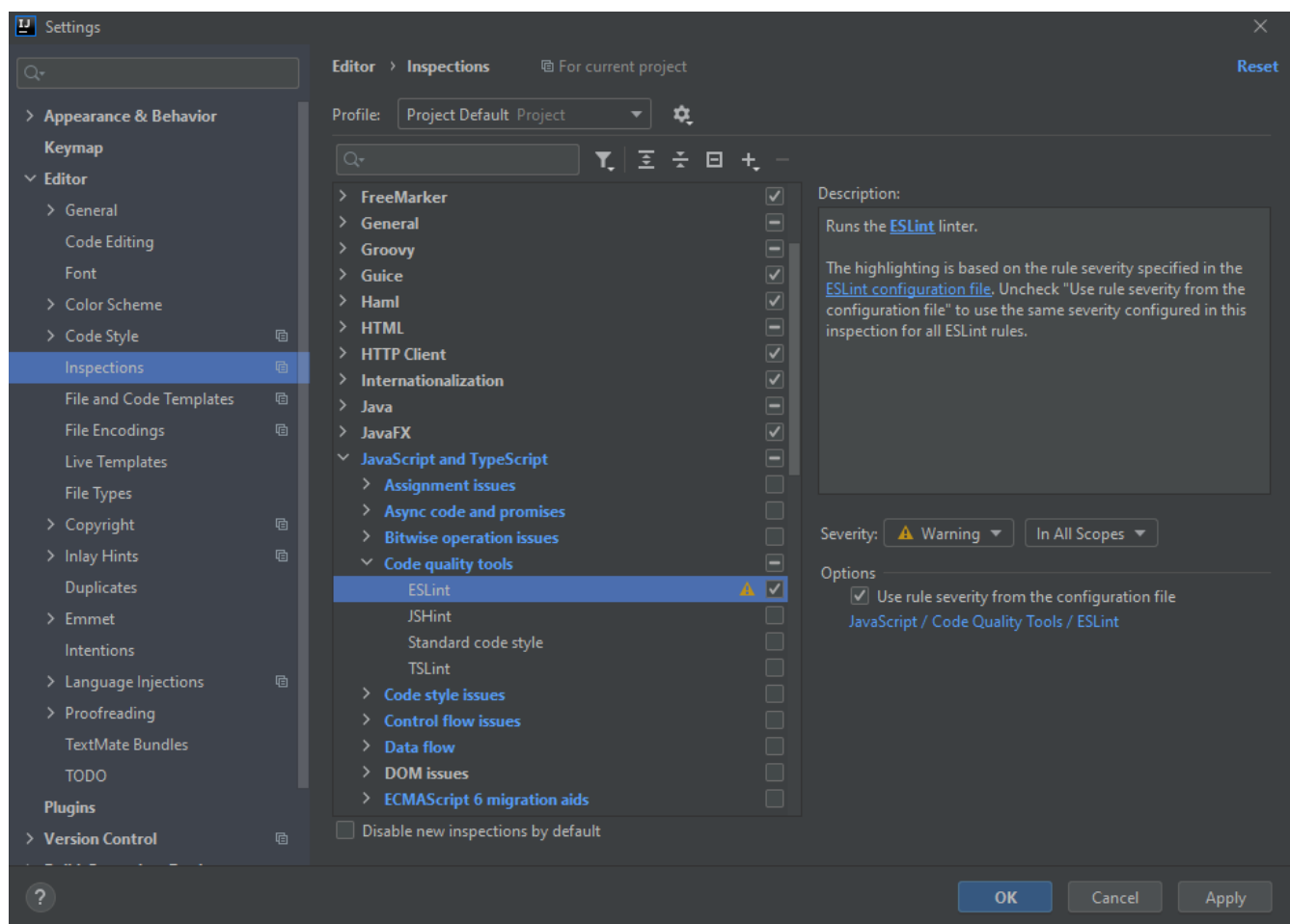
3. Configure IntelliJ to Enable ESLint

After you are done with Section 2, follow the instructions below to configure your IntelliJ IDEA:

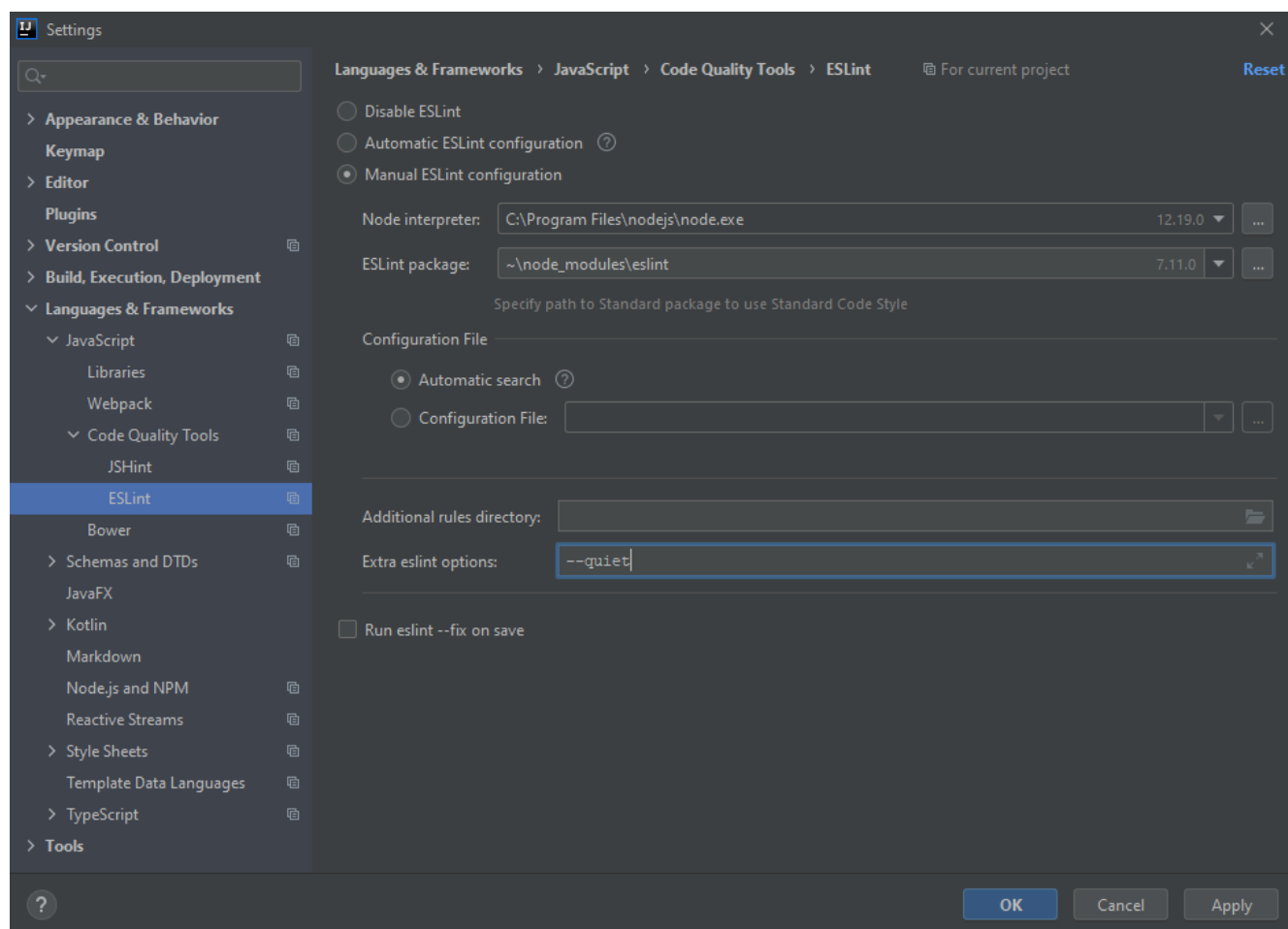
- a) **Set up IntelliJ IDEA to use NodeJS:** Now that our global environment supports ESLint and the AirBnB Javascript Style Guidelines, we want to integrate this into IntelliJ. To do this, first, activate the NodeJS plugin. Go to "File->Settings->Plugins", then click on the "Marketplace" button, then type "NodeJS" into the search box. You should find the NodeJS plugin. If it is installed, then you're set, if not, take a moment to do so.



- b) **Disable non-ESLint IntelliJ Inspections:** IntelliJ comes with a set of "Inspections" for a wide variety of languages and environments in: "File->Settings->->Editor->Inspections". Go to the Javascript option, disable non-ESLint inspections as they tend to generate lots of "warnings" that don't necessarily identify bad code. For this class, just use ESLint to identify problems. Click the check boxes off until only ESLint is displayed as enabled for Javascript (the "ESLint" option is under "Javascript->Code Quality Tools"). After you are done, the window should look like:



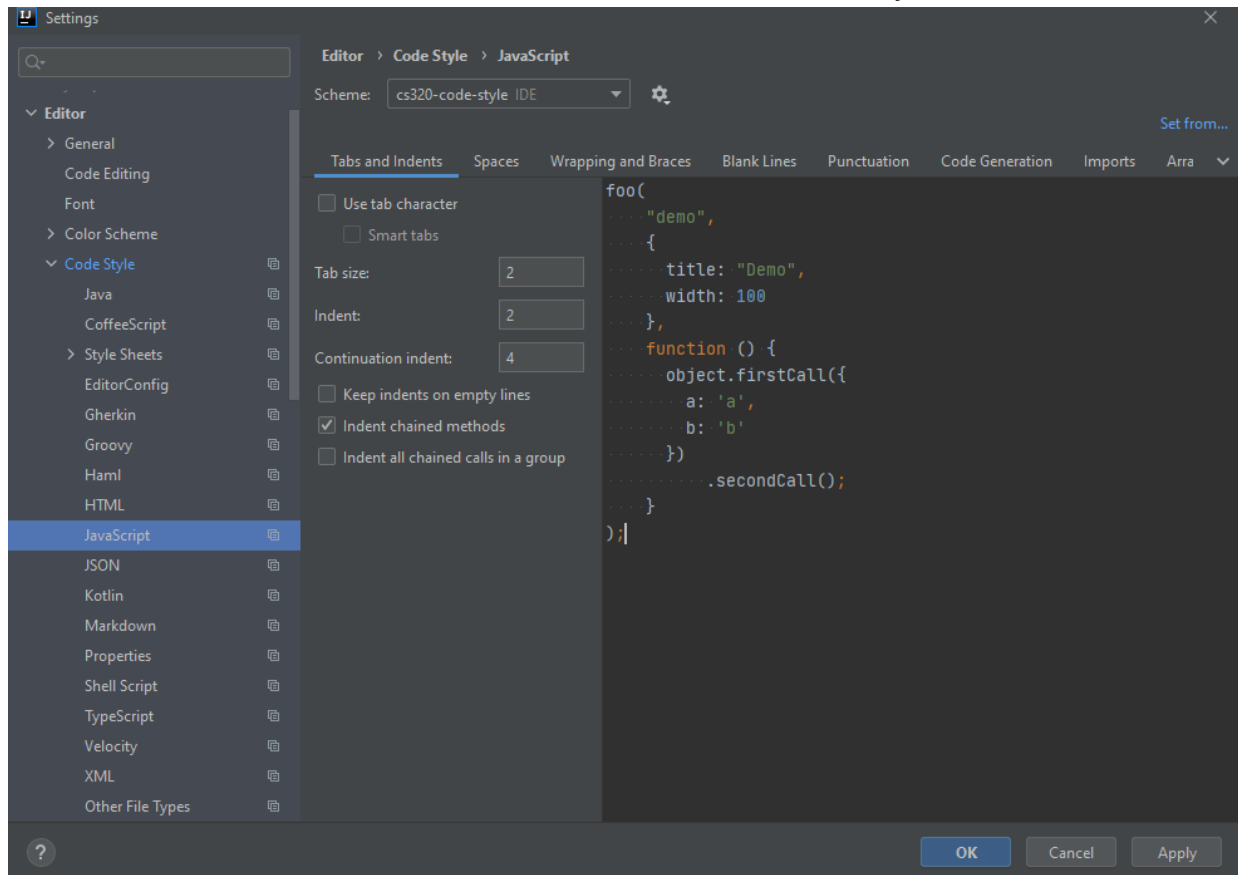
- c) **Enable ESLint and the AirBnB Javascript Coding Standards:** (Before this step, you must have installed ESLint into your global node environment following the instructions in Section 2.) Go to "File->Settings->Languages and Frameworks->Javascript->Code Quality->ESLint", and enable it for your project, as shown in Figure 4. Note that the location of the node interpreter and the ESLint package will be different on Windows. Make sure "Enable" is checked! Also add --quiet to "Extra ESLint options". The --quiet flag tells IntelliJ to show only ESLint errors and to suppress warnings.



4. Other Configurations in IntelliJ

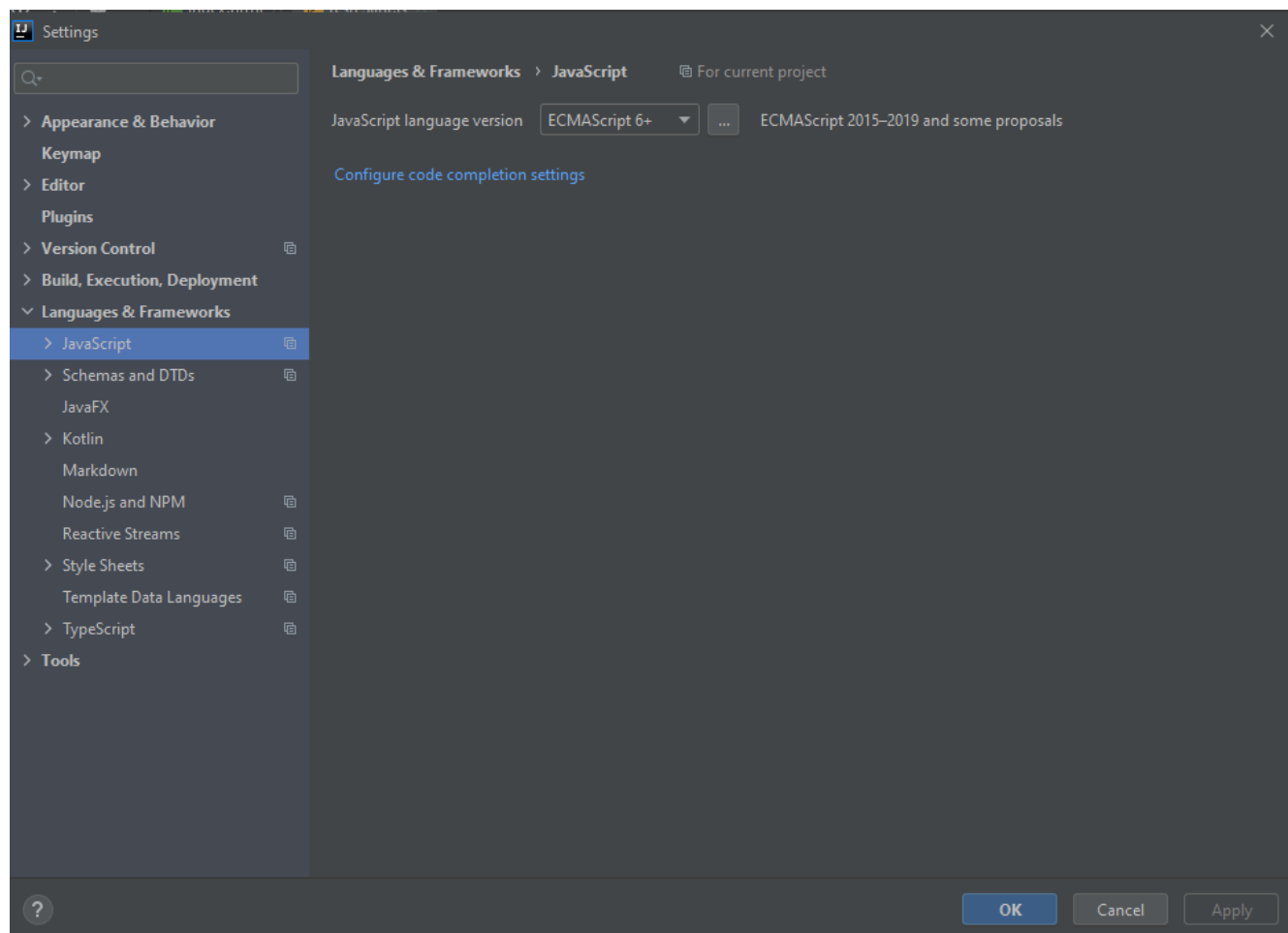
Now that your IntelliJ knows to use ESLint to enforce coding standards, we need to link the tool to the actual rules we are trying to enforce.

- a) **Import IntelliJ Code Layout Preferences:** import the `cs320-code-style.xml` file (available for downloading in the Homework 4 section of Blackboard) into IntelliJ IDEA, and make sure it is the default code style, as shown:

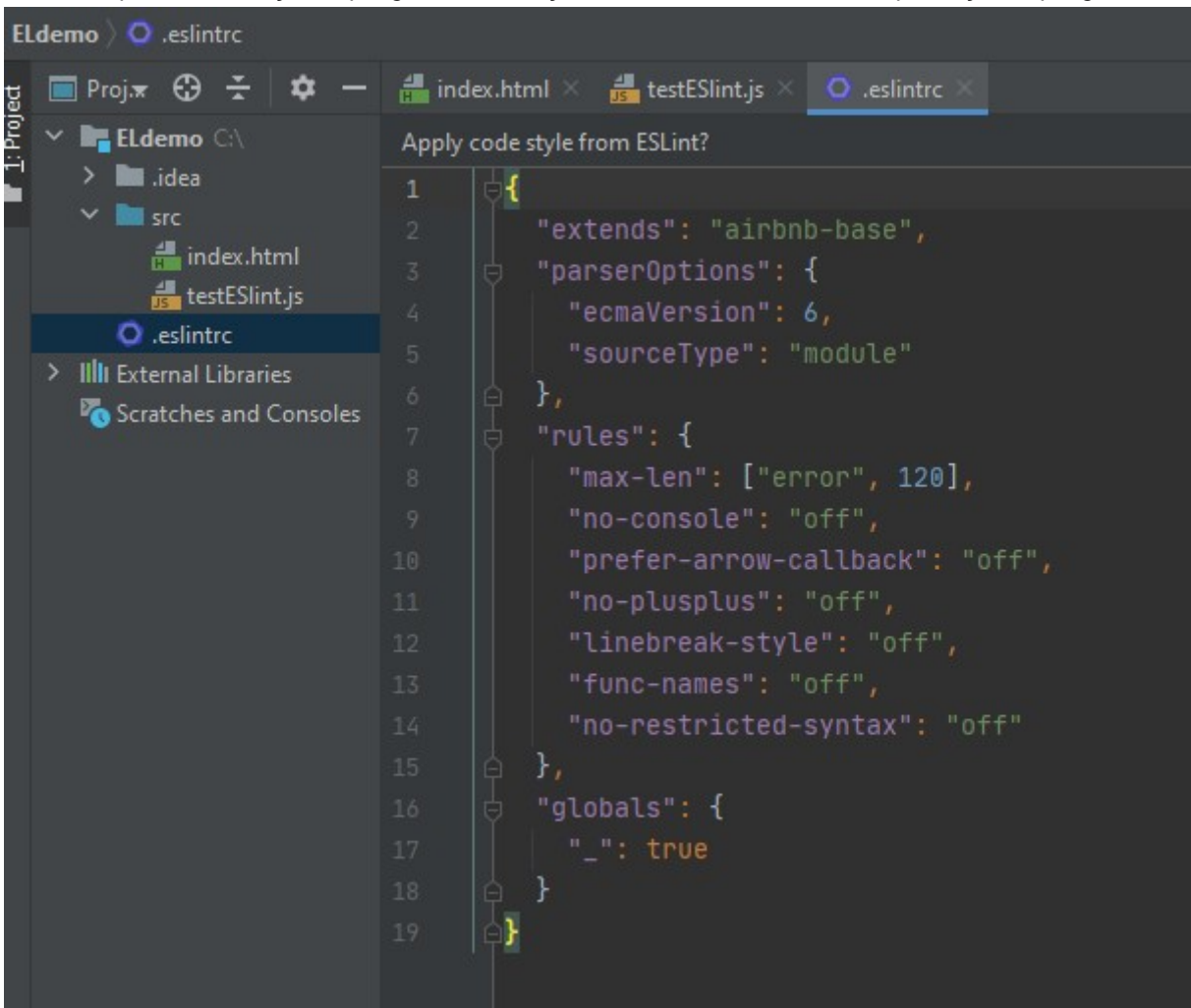


Again, you can ignore any "npm WARN" messages. If you get "npm ERROR", that's a problem that needs to be solved. Once set, then the "Code->Reformat Code" command will reformat code to comply with our standards.

- b) make sure the Javascript version is ECMAScript 6: in "File->Settings->Languages and Frameworks->Javascript", set the language to ECMAScript 6, so that you can write code using the latest Javascript language release



- c) Download the class standard .eslintrc file: ESLint can be used to enforce many different coding standards. I have created a .eslintrc file that specifies the particular standards that apply to this class. Download the .eslintrc file (available for downloading in the Homework 4 section of Blackboard) into the top-level of your project. Then you should see it show up in your project view.



- d) **NOTE!** At this point, some people may face an error:
Error: Failed to load config "airbnb-base" to extend from.

This means the global installation of the airbnb-base rules isn't working. One fix for this is to put the modules into the local project folder. This can be done from the terminal by navigating to the project root folder and from the terminal using the following command to install the packages locally:

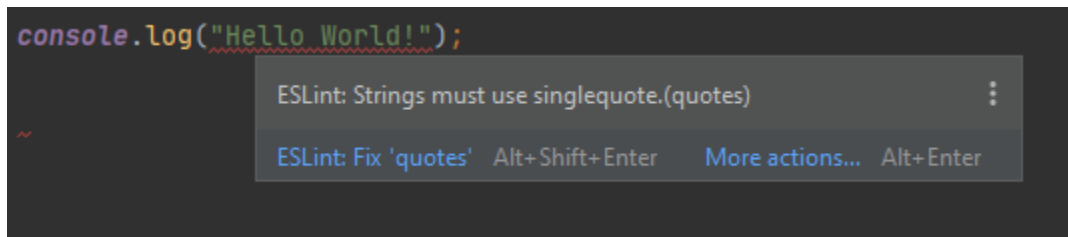
```
npx install-peerdeps --dev eslint-config-airbnb-base
```

5. Test that ESLint is working

Now you are all set. Let's test if everything is working correctly. Create a new Javascript project in IntelliJ, call it "Hellojavascript". Then create a Javascript file in this project and type the following line in that file:

```
console.log("Hello World");
```

ESLint should run and indicate an error through a red line in the right sidebar. Move the mouse over the red line to display the error, as shown in Figure 8. If a yellow panel does not pop up showing "ESLint: Strings must use single quote (quotes)", then something is wrong.



If it's been installed correctly, try running it on the ESLint_Demo code and make sure it points out the 4 errors indicated in the notes. If so, then you have configured it all correctly.