

Debugging Strategies

JavaScript



Read Your Error Messages!

Whenever your JavaScript code encounters an error, there will always be an error message displayed with the following information:

1. Message (this is a string that carries the error message)
2. Name (the type of error that has occurred)
3. Stack (the stack trace of code executed when the error occurred - in short, this gives us the last few lines of code executed before an error occurred)

---UNHANDLED EXCEPTION---

ReferenceError: errorTriggeringVariable is not defined
at main (file:///C:/tmp/example/src/js/scripts.js:3:9)
at run (file:///C:/tmp/example/src/js/console.js:57:11)
at file:///C:/tmp/example/src/js/console.js:61:1

End of program, please refresh the page (F5) to restart the program.

As we can see, the error message is an unhandled exceptions, the error type is a ReferenceError, because a variable is not defined, and the error was caught in `scripts.js` on line 3.

Research Your Issues!

If you encounter an error or issue that you cannot resolve on your own, don't panic. Chances are you are not the first person to have encountered that error and there are bountiful resources on the internet to help! Resources can include:

1. Online tutorials
2. Program documentation
3. Stackoverflow (a well moderated forum for discussing bugs and issues)
4. Other resources found on Google

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If we google the above error message, we get the following explanation from [geeksforgeeks.org](https://www.geeksforgeeks.org/reference-error-is-not-defined/):

“There is a non-existent variable that is referenced somewhere in the script. That variable has to be declared, or make sure the variable is available in the current script or scope.”

Ask for Help!

When all else fails, ask your mentors, instructors, colleagues, or classmates for help! Developers rely on each other all the time, and once you're in the field, it is expected that you'll be asking questions often. Naturally, make an effort to understand the solution when it is given to you, since it is likely you will encounter the same problem again sometime in the future. When using code that others give you, be sure that the code shared is open source (or you've received permission from the author) and give credit to the original source when possible. Taking code that isn't your own and submitting it without credit is considered plagiarism! Generally, code from the following sources are fine to use:

1. Stackoverflow and other programming forums (be sure to give credit to the original source)
2. Tutorial websites such as w3schools and geeksforgeeks
3. Code covered in published materials such as books