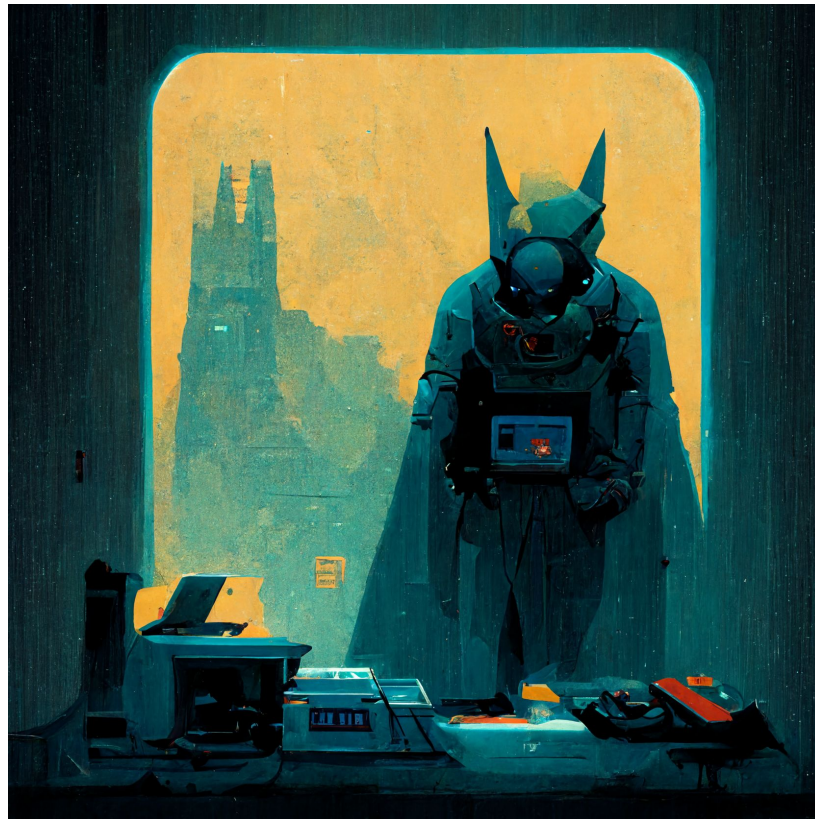


# Troubleshooting like Batman



Brie Carranza | Senior Support Engineer | GitLab



*The most powerful superhero*





# How does Batman do it?

(It's not about the money.)

Answer: The right tools.



# Hello, world!

*I am Brie Carranza.*

I love to talk about troubleshooting.

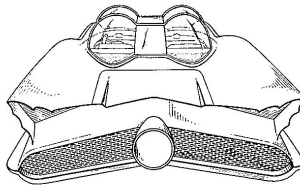
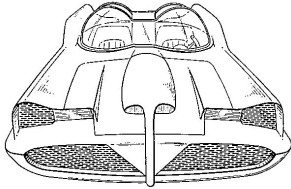
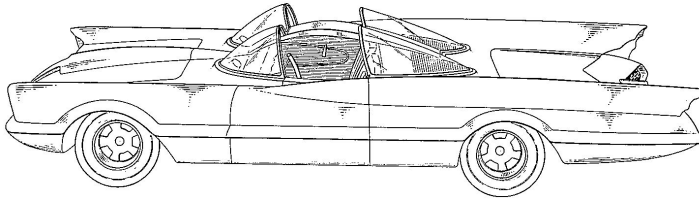
I write at [brie.dev](https://brie.dev).

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# About the Tools

United States Patent Office

Des. 205,998  
Patented Oct. 18, 1966



- These are **general** tools; you apply them to a **specific** use case.
- Unordered list
- Used together
- LEGOs





## The Troubleshooting Toolbox

- Reproduce the behavior
- Reduce complexity
- (Re)Set expectations
- Clarify the problem statement
- Increase verbosity
- Ask questions



# Reproduce the behavior

Can I break it, too? If so: can I fix it?



## **Reproduce the Behavior**

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Can I break it in the same way?

YES: Great: Can I fix it?

NO: Interesting! Why not?

SOMETIMES: Weird; what's different?





# Reduce complexity

...but remember to build it back.



## **Reduce Complexity**

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### **Original Problem Statement**

How can I view environment variables about a CI/CD job that runs in a downstream pipeline in a Private project?

### **Revised Problem Statement**

How can I view environment variables about a CI/CD job?



# **(Re)Set expectations**

Are the expectations realistic?



## **(Re)Set Expectations**

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Consider: The system times out when I issue a POST request via HTTP on port 80.

The system is not listening on port 80. You should:

- Send requests via HTTPS on port 443
- Configure the system to listen on port 80



# Clarify the problem statement

Can you clearly articulate the problem you are attempting to solve?



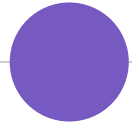
## **Clarify the Problem Statement**

### **Original Problem Statement**

We get a 401 when we try to clone.

### **Clarified Problem Statement**

People who clone via SSH get a 401 when cloning two specific projects.



# Increase verbosity

More information is required!



## Increase Verbosity

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**Expectation:** The Authorization header that I pass should be used for authentication.

**Reality (with increased verbosity):** A username and password were also supplied. The system preferred those to the Authorization header and used those instead.





# Ask questions

What does that do? Is this expectation reasonable?



## Ask Questions

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- Customer: does that problem happen for all users?
- Documentation: under what conditions should that happen?
- Colleagues: have you seen this before?
- Yourself: do I fully understand the problem?



## The Troubleshooting Toolbox

- Reproduce the behavior
- Reduce complexity
- (Re)Set expectations
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What you know: 😊  
What you can figure out: 😍

“