

# DevOps for Defense

## DevOps for Documentation

JD Black  
February 2021



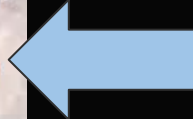
**Sponsored by:**



<https://devopsfordefense.org>  
<https://www.meetup.com/DevOps-for-Defense/>  
<https://github.com/jondavid-black/DevOpsForDefense>  
[devopsfordefense@gmail.com](mailto:devopsfordefense@gmail.com)  
<https://twitter.com/devops4defense>

# Premise: Government Contracting is in Transition


We are often asked / required to be Agile...



Individuals and interactions over processes and tools  
Working software over comprehensive documentation  
Customer collaboration over contract negotiation  
Responding to change over following a plan

But...

- Our contracts have more document than software deliverables.
- Contracts are run by acquisition program offices who must pour through our documentation but rarely actually use our software.
- This can be in the best interest of the government. (Avoid lock in, clearly define system boundaries/interaction, etc.)

A close-up photograph of a hand holding a small white sign with the word "HELP" written on it in black marker. The hand is positioned in front of a spiral-bound notebook, which is slightly out of focus. The background is a blurred outdoor scene with a fence and some foliage.

HELP

## And we don't help ourselves...

I have a great idea for a process improvement!

Awesome, we'll need that for our CMMI metrics. Just go review these 47 process documents, make your changes, and submit for approval through the SW CCB, Lab CCB, CM CCB, Eng CCB, Finance CCB, and Program CCB. We didn't actually budget for this so you'll have to flex your time to work this.



# And Culture Plays a Role...



<b>Pathological</b> <i>Power-oriented</i>	<b>Bureaucratic</b> <i>Rule-oriented</i>	<b>Generative</b> <i>Performance-oriented</i>
Low cooperation	Modest cooperation	High cooperation
Messengers shot	Messengers neglected	Messengers trained
Responsibilities shirked	Narrow responsibilities	Risks are shared
Bridging discouraged	Bridging tolerated	Bridging encouraged
Failure leads to scapegoating	Failure leads to justice	Failure leads to inquiry
Novelty crushed	Novelty leads to problems	Novelty implemented

How painful are your document reviews and approvals?

# Can DevOps practices work for documents?

## Technology and automation

- Version control
- Deployment automation
- Continuous integration
- Trunk-based development
- Test automation
- Test data management
- Shift left on security
- Continuous delivery
- Loosely-coupled architecture
- Architect for empowered teams

@nicolefv



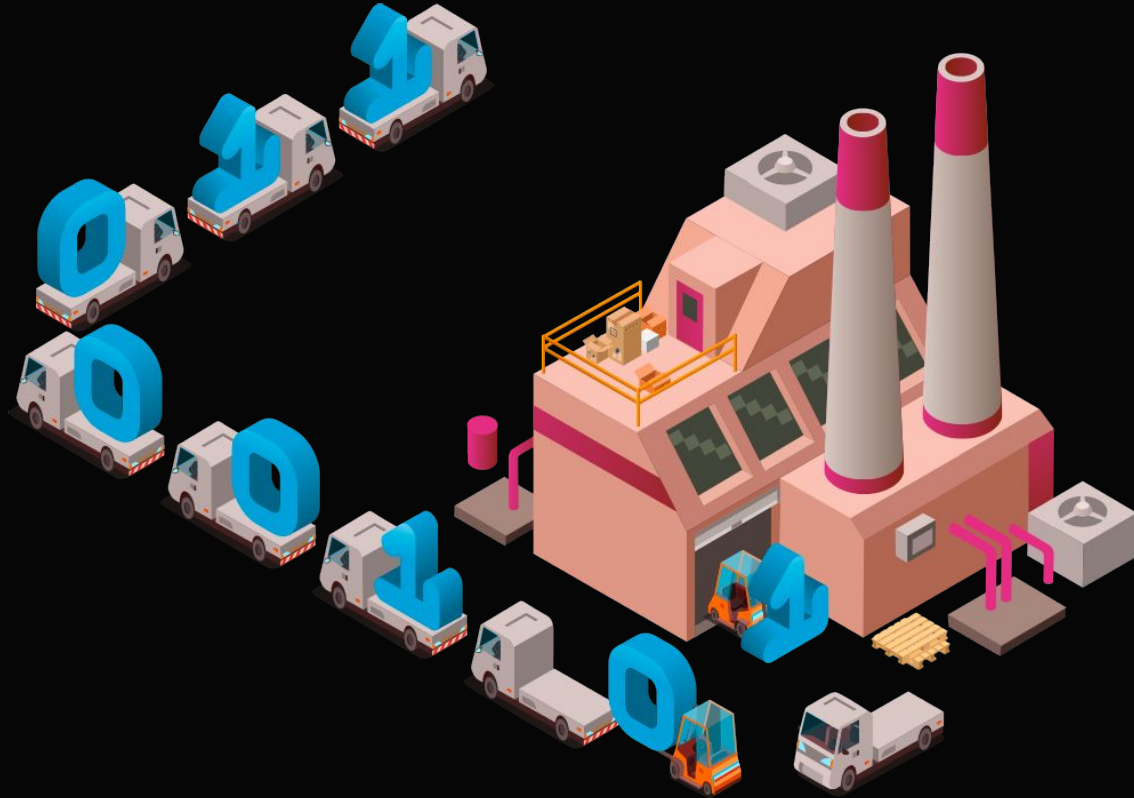
## Process

- Gather and implement customer feedback
- Work in small batches
- Lightweight change approval process
- Team experimentation

@nicolefv



# We hear a lot about the Software Factory



# ...but don't we need a Document Factory too?



# Explore Potential Solutions

Document Specification / Typesetting Languages:



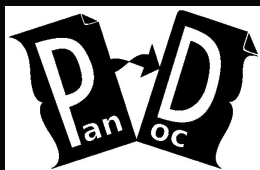
Simple / Limited



Complex / Powerful



Tools & Frameworks:



Plus Tons of Services and  
Supporting Libraries / Converters  
in Multiple Languages



**WARNING: CMS Tools Often Violate DevOps Practices (i.e. Version Control)**



# Experiment: Rigorously CM'ed document with CI/CD

## Hypothesis:

I believe that if I can establish a simple plain text solution for document content, I can employ rigorous configuration management and automate quality checks and delivery.

I am successful if I can create a useful digital product consumable and searchable via browser and a complimentary traditional document suitable for CDRL delivery.

## MVP / Test:

Custom Cookbook - Organize my shelf of dog eared cook books, loose paper recipes, and handwritten adjustments using a Git repository and automated pipeline which publishes both a website and a PDF.



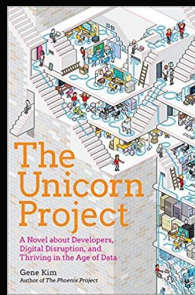
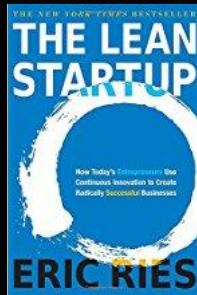
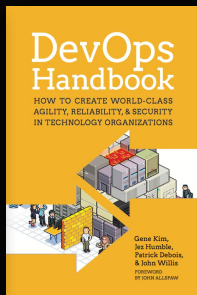
<https://gitfood.org>



# DevOps Resources

<https://devopsfordefense.org/resources/>

## Books / Publications:



<https://www.meetup.com/DevOps-for-Defense/>  
<https://github.com/jondavid-black/DevOpsForDefense>  
[devopsfordefense@gmail.com](mailto:devopsfordefense@gmail.com)

## Conference Presentations (YouTube):

- DevOps Enterprise Summit (DOES)
- IT Revolution
- Velocity
- GoTo

