

Agile + DevOps **WEST**

A TECHWELL EVENT

AD15

DevOps Engineering

11:45 AM

AD15 - DevOps: A Journey of Automation That's Worth the Wait

Presented by:

Shareen Gurley and Narasimha Yalamala

Capital One

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Shareen Gurley

Shareen Gurley is an experienced Delivery lead and Agile Coach at Capital One. She has a track record of enabling development teams to deliver outstanding software with the shortest lead times by using strong lean and agile principles. Her passion is in working with leaders and teams to create a culture of Quality ownership across all roles, to advance engineering practices through strategic transformation initiatives, and to set the direction for developing an elite engineering workforce and deliver results affecting the bottom line. Shareen believes that process and project management tools and techniques are crucial to execute projects, programs, and portfolios strategically.

Narasimha Yalamala

Narasimha Yalamala is an experienced Lead Developer / Master Software Engineer at Capital One responsible for full stack development including application development and cloud infrastructure development on AWS using automated scripts such as Chef, Jenkins, Docker, and Kubernetes. He is a certified AWS developer and architect associate with sound knowledge in AWS services and expertise in developing fully resilient applications in the cloud with fully automated infrastructure.



DevOps: A Journey of Automation That's Worth the Wait

Shareen Gurley

Narasimha Yalamala

June 5, 2019

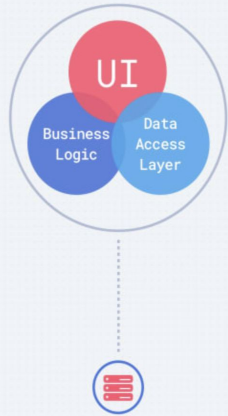
Begin with an end in Mind



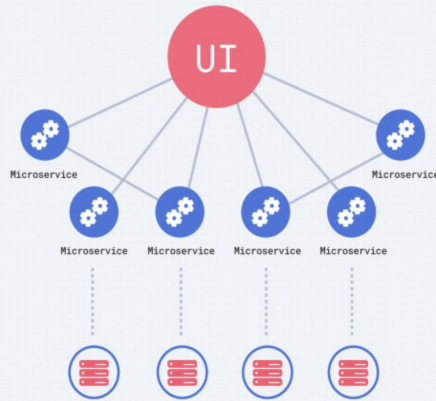
The tale about “Stone Soup” provides valuable lessons for DevOps



Monolithic Architecture



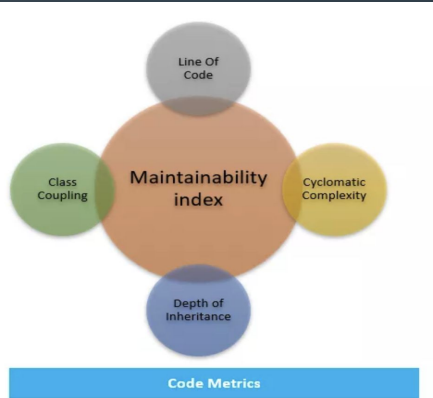
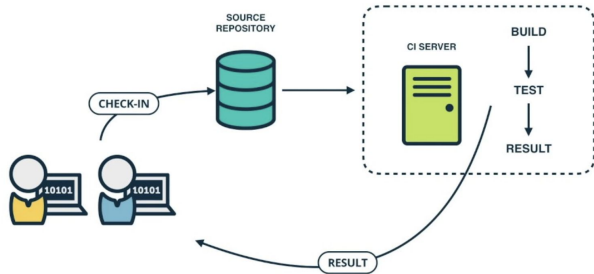
Microservices Architecture



Unit Tests

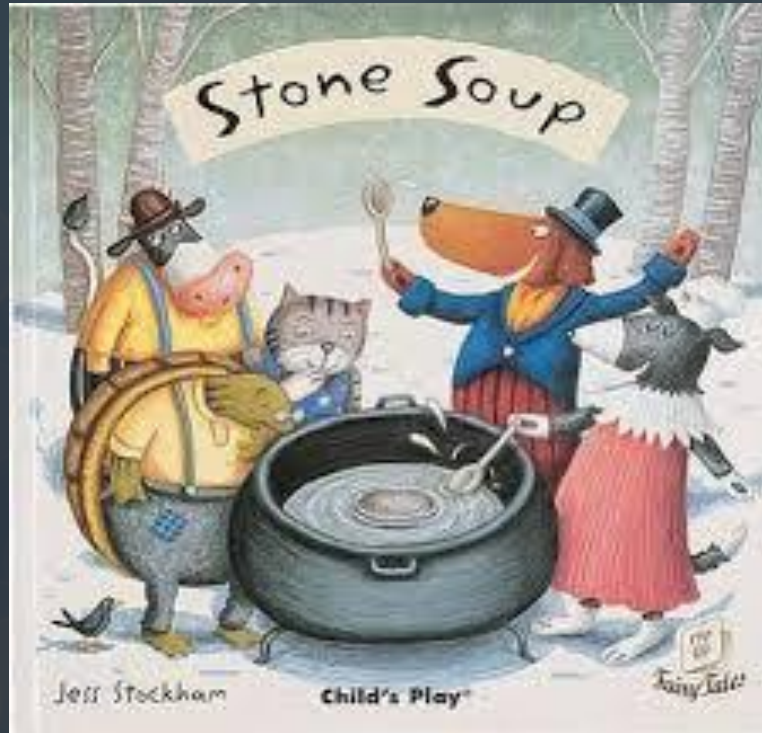
JUnit, Mockito, PowerMock

Continuous Integration (CI)





Transitioning to DevOps requires a change in culture and mindset



Sometimes, people need a “*magic stone*” to work together and improve the technical and organizational procedures that are the essential ingredients to a DevOps Culture

Our Journey ...

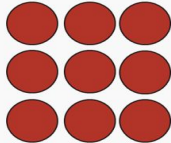
2015 - 2016

Stage 1:
Centralized Ops
Distributed Development

Central
Tech



Divisional
Tech

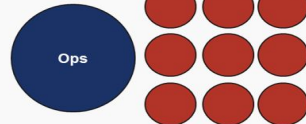


Development

Handoffs & silos leads to inefficiency and us vs them attitudes

2016 - 2017

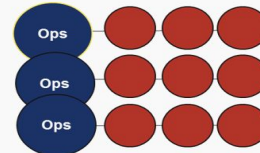
Stage 2:
Ops centralized
in the Division



Shift to divisions yields greater LOB accountability

2017 - 2018

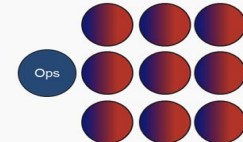
Stage 3:
Ops semi-distributed
in the Division



Local DevOps teams provide increasingly targeted solutions and accelerate automation progress via parallel problem solving

2018 - 2019

Stage 4:
Ops fully distributed
Into the teams



Full delivery team responsibility for pipelines and incident resolution drives reduced incident resolution & detection

Our Journey ...

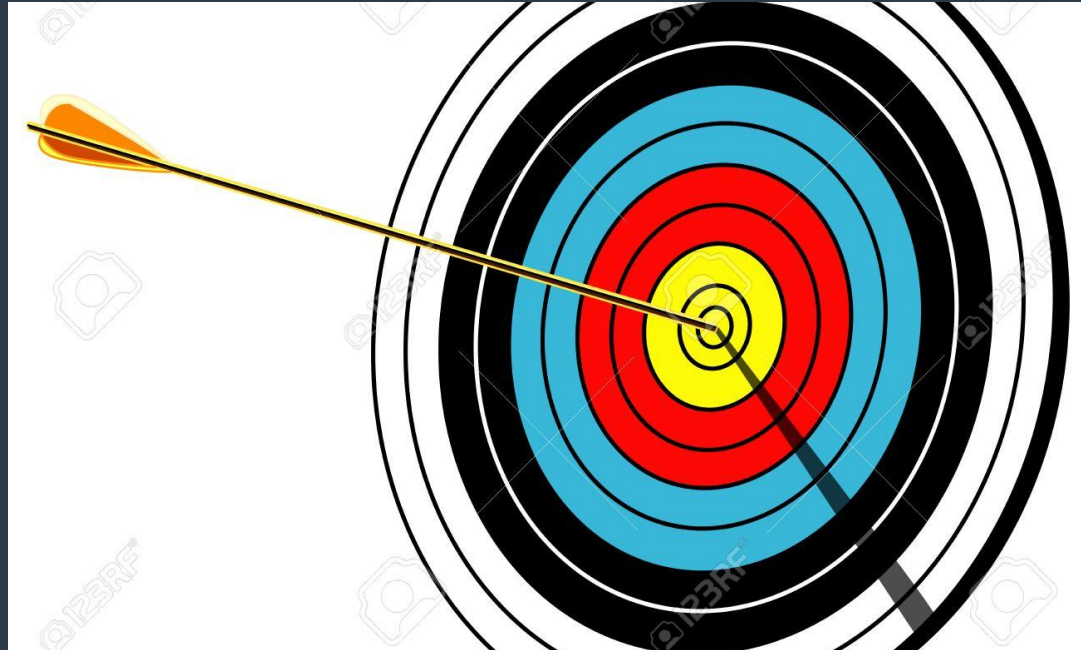




5 steps that can help you get started

Step 1: Establish What your goal is?

- Decide what you want?
- What does it look like when you are done?
- Aim for a tangible outcome!



The more clear you are on what you want to be able to do, the easier it will be for you to find ways to accomplish that desired result

Understanding why does it matter?

Tedious and Repetitive tasks

Non-Prod Deployment:

- ✓ Create the Docker Image
- ✓ Run Sonar, Security Scans
- ✓ Update new Docker version in task definition files
- ✓ Deploy to ST environment
- ✓ Run regression/system tests on ST
- ✓ Deploy to IT environment
- ✓ Run regression tests on IT
- ✓ Deploy to PERF environment
- ✓ Run PERF Tests



Production Release Readiness:

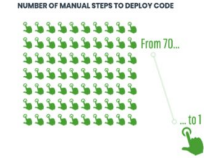
- ✓ Create CO in HPSM
- ✓ Send request for the release slot to Release Eng. team
- ✓ Prepare MBM / Implementation steps
- ✓ Prepare Release Readiness Checklist
- ✓ Get PO/Director approvals for the release
- ✓ Upload MBM/ RR documents to ODR on time
- ✓ Attend Release Review meeting

Production deployment:

- ✓ Update Production task definition files
- ✓ CO update in HPSM for the release
- ✓ Create Inactive Cluster
- ✓ Deploy the Service
- ✓ Validate the inactive deployment
- ✓ If validations are good, stage current production version in inactive
- ✓ Deploy to active prod
- ✓ Validate the active deployment

What are the benefits?

- ✓ Automated build and deployment steps



- ✓ Adhere to pre-approved release process



- ✓ Eliminates the week long overhead of the current change order process



The faster your cycle time, the quicker you can introduce new features to your end users.

Understanding What it is and isnt...

DevOps is a practice, not a role. It's like agility. *Does your company have an agile team?* From Dave Thomas's agility redux:

- *You aren't an agile programmer—you're a programmer who programs with agility.*
- *You don't work on an agile team—your team exhibits agility.*
- *You don't use agile tools—you use tools that enhance your agility.*

The same applies to the practice of DevOps.

- **You aren't a DevOps programmer—you're a programmer who automates deployment and operations.**
- **You don't work on a DevOps team—your team runs the applications you build.**
- **You don't use DevOps tools—you use tools that enhance your ability to ship business value.**

The mission of a DevOps team is to eliminate itself.



Source: <http://caseywest.com/the-mission-of-a-devops-team/>

Step 2: Tell your story

- What is the most important value/behavior you want to drive with your teams?
- Helps Prioritize the work
- Leadership buy-in

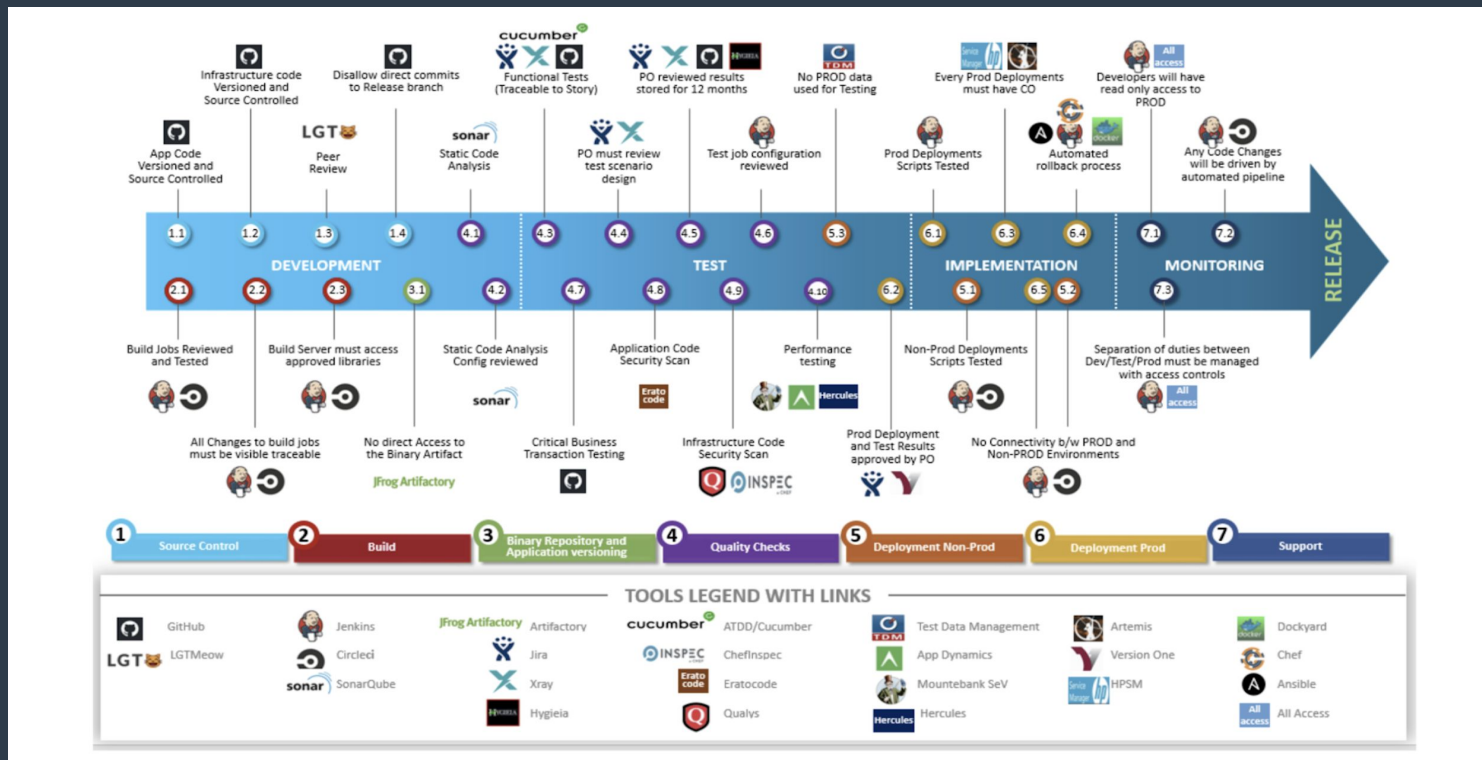


Step 3: Deconstruct the skill

- What skills will I need? Make a list!
- What resources will I use to learn/onboard each skill?
- What core tools (training/coaches) I will need immediately?
- What are some great projects that I can leverage?
-



There are a few key practices that help organizations innovate faster through automating and streamlining the software development and infrastructure management processes



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Step 4: Deliberate practice

- Honing your craft
- Encouraging environment
- Experts to ask
- Fast feedback loops
- What/When should I relearn



Step 5: Show and tell

- Celebrate your **Success**
- Going from “good” to “GREAT”
- Teach others



Let's Keep in touch



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