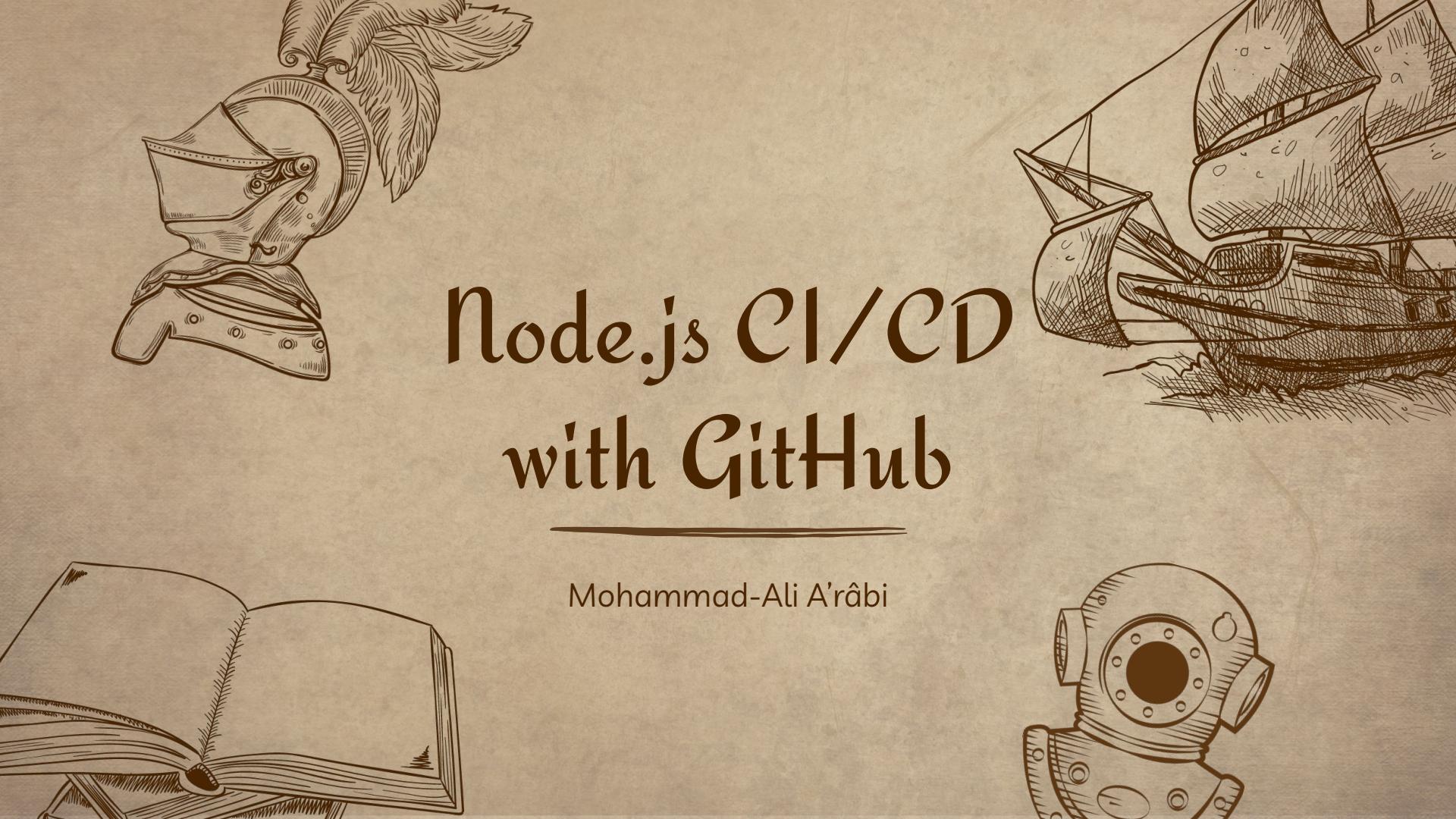


# FUN FACTS FOR EARLY BIRDS

Did you know that:

1. The word "**algorithm**" comes from the name of the Persian mathematician Muhammad ibn Musa **al-Khwarizmi**, who lived in the 9th century. His book on decimal numbers was translated into Latin under the title **Algoritmi de Numero Indorum** (meaning "Al-Khwarizmi on Indian numbers"). The title was misinterpreted to mean "algorithms on Indian numbers".
2. The word **Chess** (as well as **check**) come from the Persian word **shah** which means "king". **Checkmate** means "the king is dead".
3. Not all infinities are the same. There are more real numbers than natural numbers, but natural numbers and rational numbers have the same cardinality.
4. The word **tulip** comes from the Persian word **dulband** meaning "turban", a headwrap worn by men.
5. The word **magic** comes **magh**, a Persian word for the priests of Zoroastrianism, an Iranian religion practiced since 16th century BCE.
6. Speaking of Zoroastrianism, the word **Paradise** comes from Old Iranian word **paridaiza**, meaning "enclosed garden". This word was loaned in Greek as **paradeisos** and was used by Xenophon and others for an orchard or royal hunting park in Persia, and it was taken in Septuagint to mean "the garden of Eden," and in New Testament translations of Luke xxiii.43 to mean "the Christian heaven, place where the souls of the righteous departed await resurrection".
7. Al-Khwarizmi has another book called **al-mukhtasar fi hisab al-jabr wa al-muqabala** meaning "the compendium on calculation by restoring and balancing". **Al-jabr** "restoring" became **algebra** in Europe.



# Node.js CI/CD with GitHub

---

Mohammad-Ali A'râbi

# DISCLAIMER



## Node.js

The talk is titled Node.js CI/CD, but is rather general



## GitHub

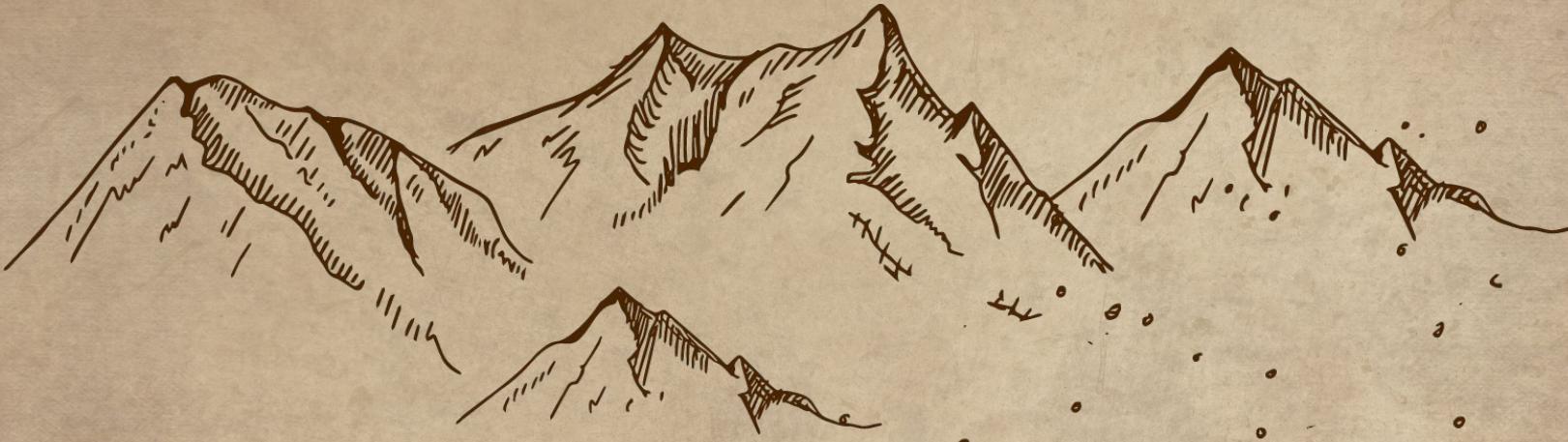
The practices are more Git-based than GitHub



## No Code

No codes in this talk, only cool pictures





01 BASICS

03 DEPLOYMENT

02 EXTREME  
MADNESS

# Mohammad-Ali A'rabi

Software Engineer @ Jodel  
Docker Captain

**aerabi** @ GitHub, Medium,  
LinkedIn, Telegram, GoodReads

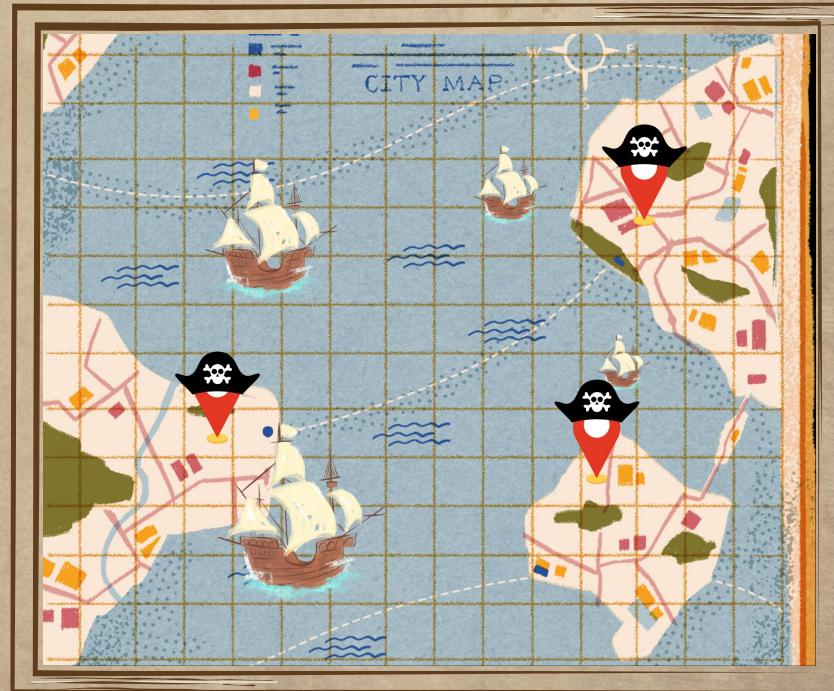
**aerabi.com** @ BlueSky  
**MohammadAliEN** @ Twitter



# BLOG

Accelerate Kubernetes  
Development and Testing  
with Telepresence

[aerabi.medium.com](https://aerabi.medium.com)





# 2005

Git was created  
Started coding in C

# 2013

Docker was created  
Started my first pro job

# 2015

???

# WHAT'S THE SICH IN 2015?

## GIT

Git is 10 years old, GitHub is 7, GitLab is 4

## DOCKER

Docker is 2 years old, and Kubernetes is 1

## GITLAB-CI

GitLab-CI was published in April

## STAR WARS

Star Wars: The Force Awakens was released

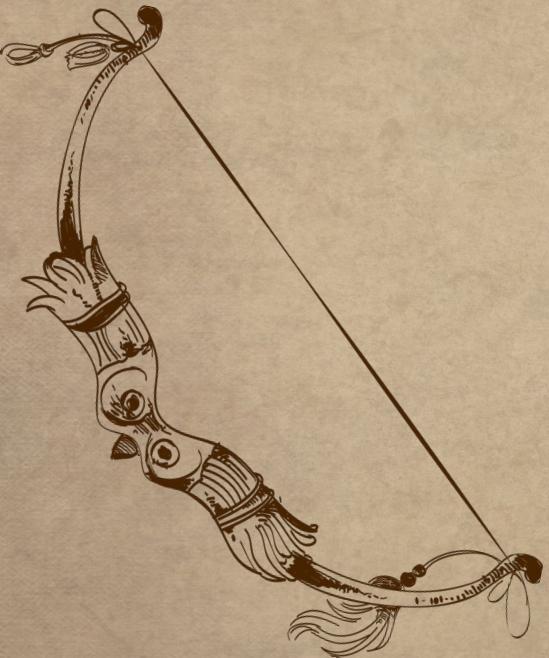
## EKS

Amazon Kubernetes Service does not exist

## ACTIONS

GitHub Actions does not exist





01

# Basics

The year is 2015



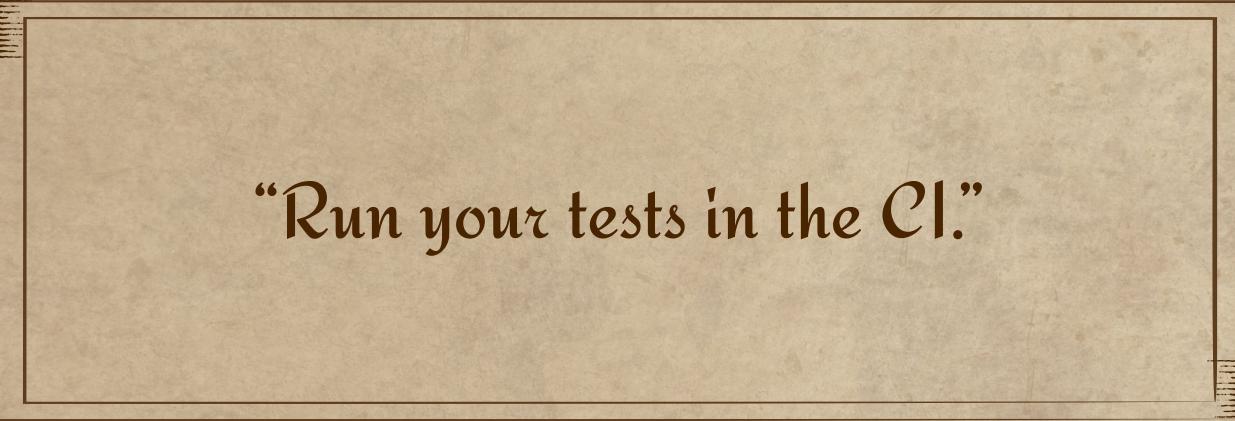






*“Check your syntax in the Cl.”*

—SOMEONE FAMOUS



*“Run your tests in the CI.”*

—SOMEONE FAMOUS

“Look into your Cl.”

—SOMEONE FAMOUS

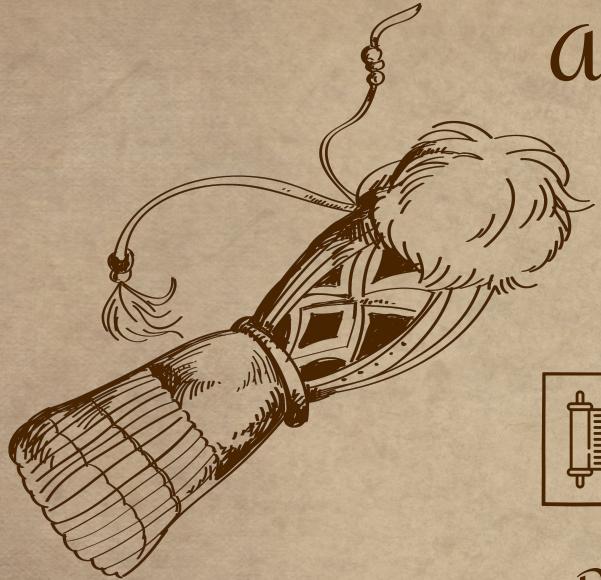




*“Make rules.”*

—SOMEONE FAMOUS

# A TALE of TWO RULES



PRs

Disallow pushing to master  
Make PRs mandatory



CI

Make PR reviews mandatory  
Make green CI mandatory



# 2018

EKS was created  
Started working at PicNic

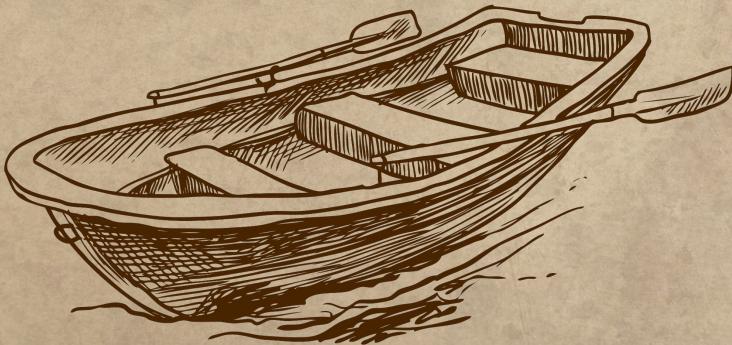
# 2019

GitHub Actions was created  
Moved back to Germany

02

# EXTREME madness

The year is 2019  
Freiburg, Germany

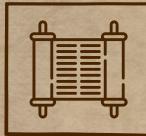




# 3150 BC

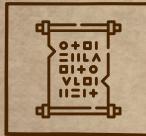
No Git, no CI/CD pipelines, no tests, Windows

# HOW TO BECOME CIVILIZED, FAST



*GIT*

— Translated the SVN history into Git



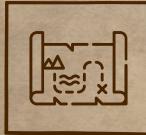
*CI*

— Started creating CI jobs to check syntax



*DOCKER*

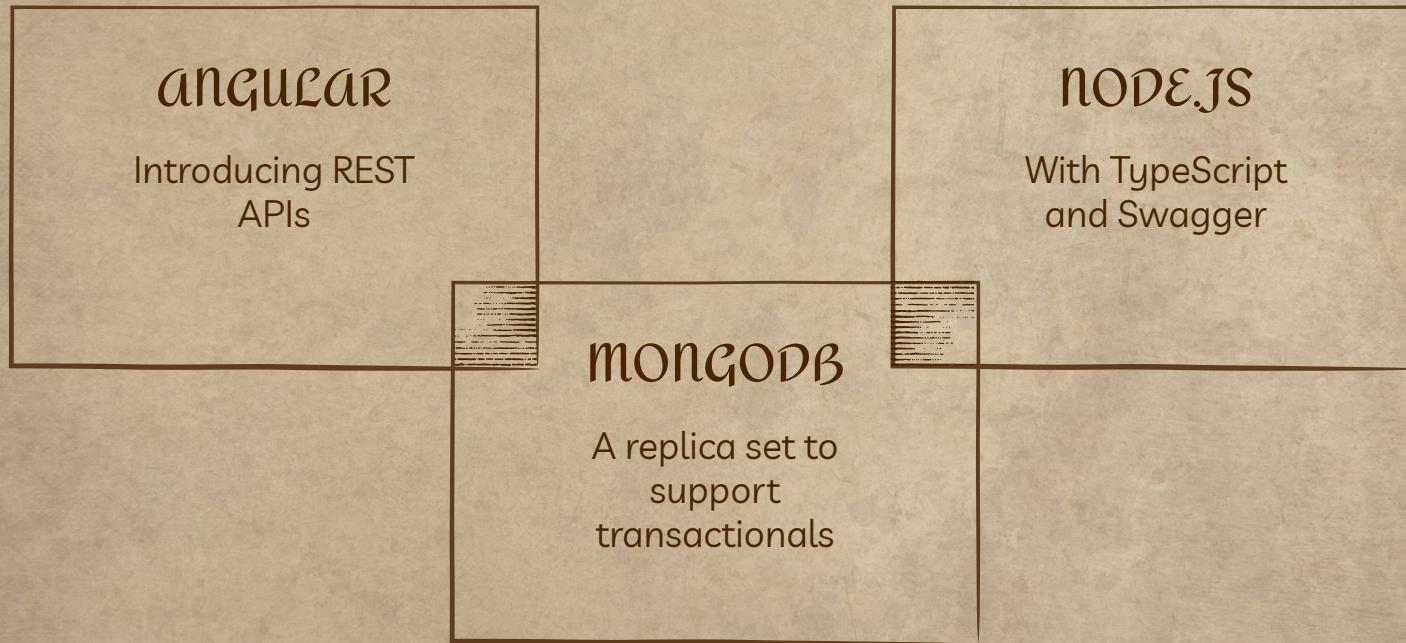
— Started replacing VMs with Docker

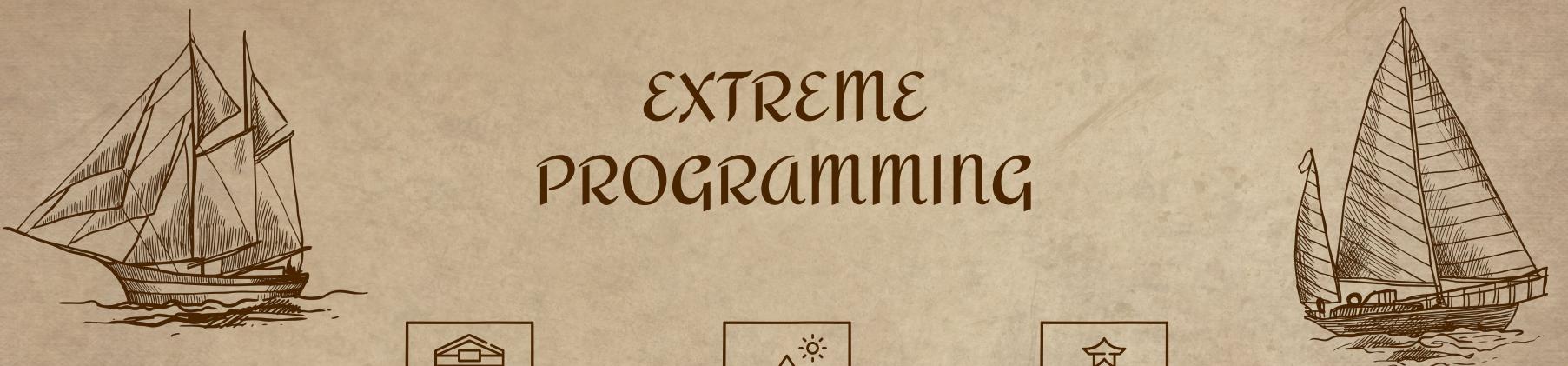


*LINUX*

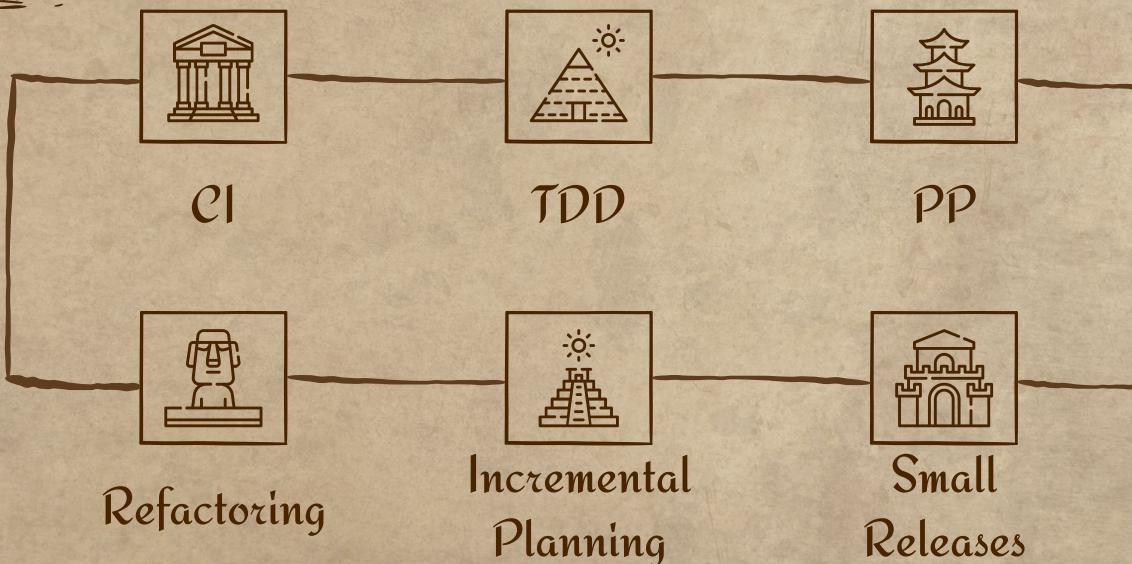
— Started using Linux as the host machine

# THE ORIGINS OF MADNESS





# EXTREME PROGRAMMING

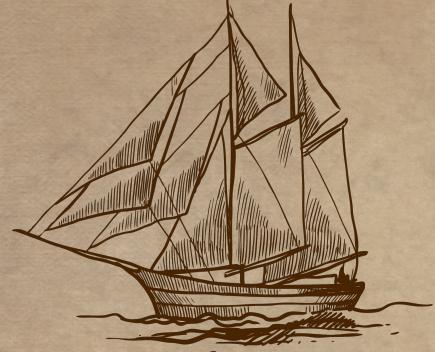


EXTREME  
madness



“Extreme Madness is having enough  
C1 rules to force a Homo Sapien to write  
code like Linus Torvalds.”

—SOMEONE FAMOUS



# EXTREME MADNESS



## TESTS

All the tests must be successfully executed

## COVERAGE

The test coverage must be 100%

## CODE LINTER

The code linter must be happy with your code

---

## COMMIT LINT

Commit messages must follow the rules

## SMALL PRs

The PRs must not exceed 500 lines of code

## 1 COMMIT PR

There must be only one commit per PR

# PR WORKFLOW

01

02

03

## SMALL COMMITS

Make small commits as they help with reviews

### TIPS

- Commit often
- Have nice messages

## REBASE

Rebase onto the master code for a ff-merge

### TIPS

- Rebase vs merge
- Keep it linear

## SQUASH

Squash the commits manually at the end

### TIPS

- Author merges
- Squash merge

# LITERATURE RECOMMENDATIONS



## Ten Commandments of Git Commit Messages

<https://aerabi.medium.com/ten-commandments-of-git-commit-messages-94bd6dcf6e0e>

## Git Merge vs Rebase vs Squash

<https://aerabi.medium.com/git-merge-vs-rebase-vs-squash-8c3b6a2405e0>

## Of Huge Pull Requests

<https://aerabi.medium.com/of-the-huge-pull-requests-b851d45fe9e>





# ALMOST THERE



age hath these  
passed by English  
was by that valiant  
Sir Francis Drake  
the Pelican and y second  
one a gentleman master  
and his in the desyre 1586

The North  
Hemi  
sphere

ATLAN

TICKE SEA

This South part  
of the world containing  
almost the third part of the  
Globe is very unknowne certa  
ne sea-captains excepted which  
rather shewe there is a land  
then discove either Land  
people or Commodities and

The South  
Hemisphare

OCEAN

THE  
WESTERNE

NORT

THE OCEANE

Z U R  
OF  
T R E S I L E R

S O U T H  
A M E R I C A

B R A S I L  
O R P E R U

P A C I F I C K E  
S E A

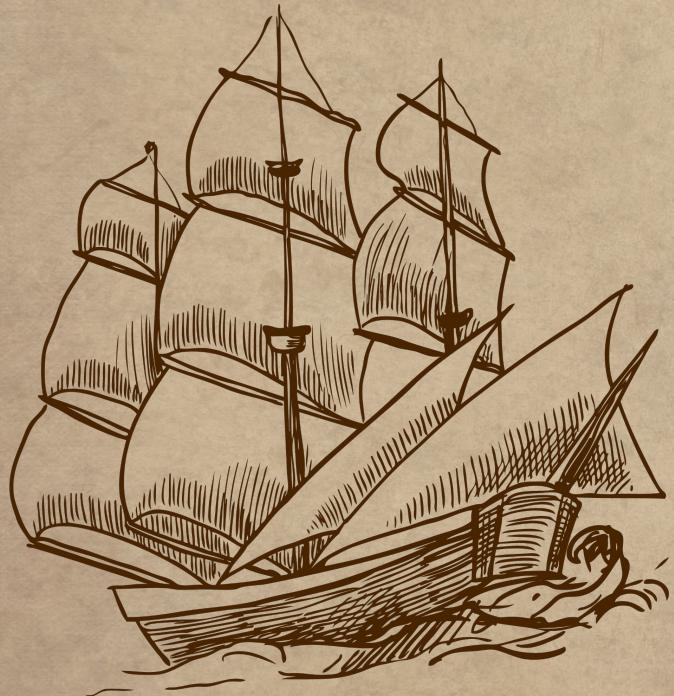
The straits of Magellan

Costa del Sur

La Morea Straits

The Antartick

Mitacorion regio et  
the Country of Par  
rats so call'd by Turk  
gals from y extraordinary



03

# DEPLOY- MENT

Year is 2022  
Started working at Jodel

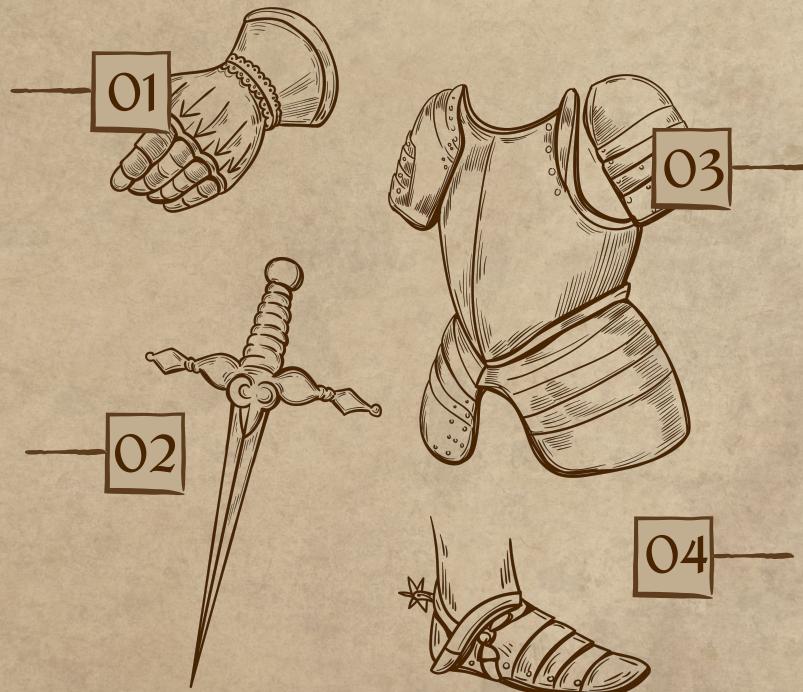
# MICROSERVICES

## GLOVES

They get requests from the main body

## SWORDS

It gets requests from the gloves and deal with the users



## ARMOR

This is a monolith inside a microservices architecture

## SHOES

This is a useless service which no one maintains or removes



# WORKFLOWS

## BEFORE

### GIT HOOK

Run linter upon commit  
and on the CI

### BUILD

Build the Docker image  
and push to a registry

### SQUASH

Use the squash merge  
on GitHub

### DEPLOY

Deploy the code right  
the PR is merged

## AFTER

### GITHUB

Push the image to the  
GitHub registry

### SCAN

Scan your image before  
pushing to production

### HELM

Use Helm to be more dry  
with Kubernetes

### GITOPS

Use ArgoCD to deploy to  
the Kubernetes cluster

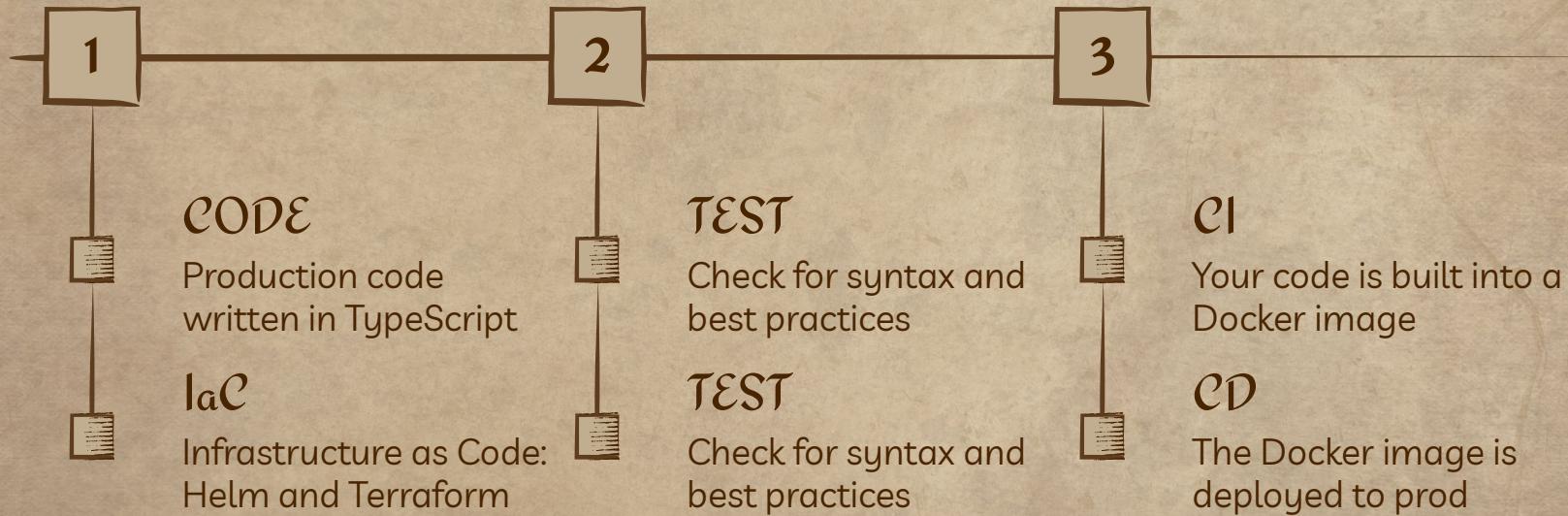
WTF is  
GITOPS?



*“GitOps is to IaC what Git was to code.”*

—SOMEONE FAMOUS

# WTF is GITOPS?





# conclusions

## 1. CI THE SHIT OUT OF THINGS

Create a CI pipeline for everything,  
even for your CV

## 2. MAKE RULES

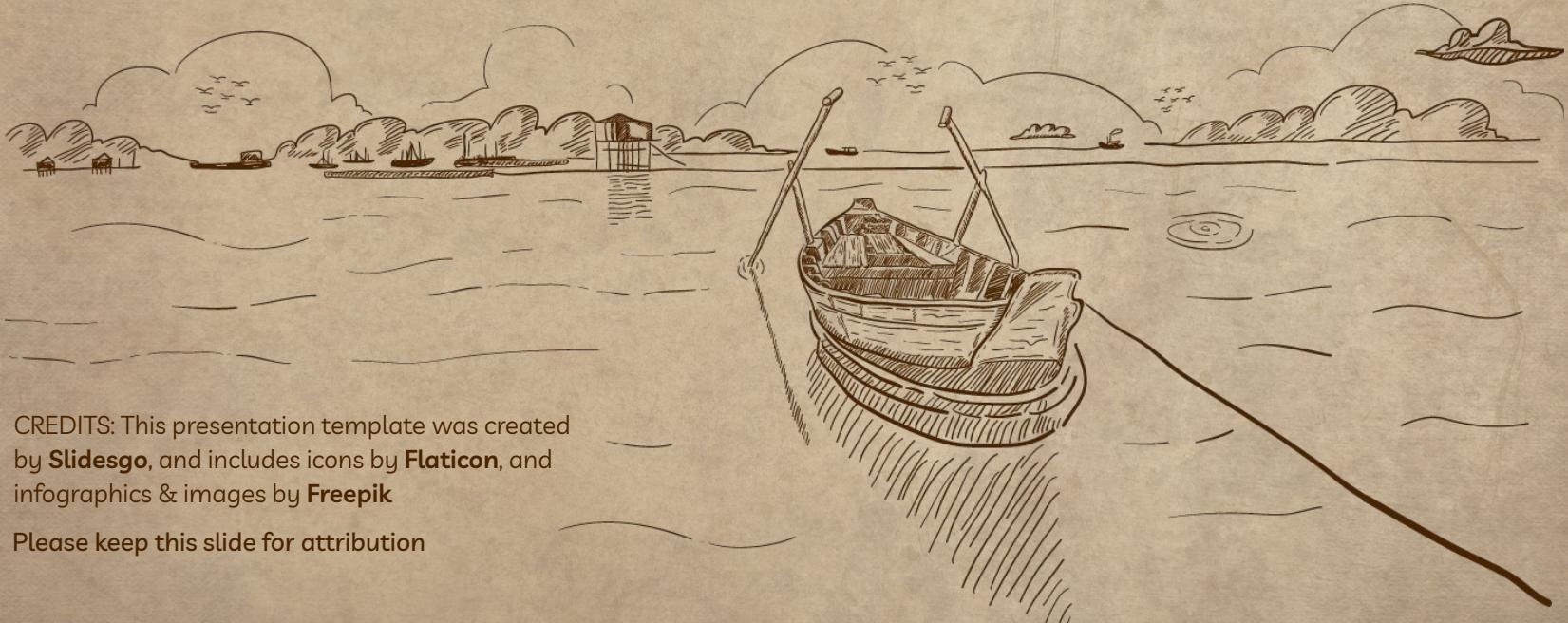
Rules of integration and deployment  
shapes a company's culture



# THanks

Please don't forget to like and subscribe

@MohammadAliEN  
aerabi.medium.com



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[github.com/aerabi/talks](https://github.com/aerabi/talks)