## Vagrant.configure("2") do |config|

## config.vm.box = "ubuntu/bionic64"

## 

## config.vm.define :db do |db\_config|

## db\_config.vm.network "private\_network", ip: "192.168.50.11"

## 

## db\_config.vm.provision "ansible" do |ansible|

## ansible.playbook = "playbooks/db.yml"

## end

## end

## 

## end

## - hosts: all

## vars:

## ansible\_python\_interpreter: /usr/bin/python3

## tasks:

## - name: Update apt

## become: yes

## apt:

## update\_cache: yes

## - name: Install MySQL

## become: yes

## apt:

## name: mysql-server

## state: present

## <https://plugins.jenkins.io/github/>

<https://www.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9ecf6> -- casos do corona virus em tempo real

ansible-playbook playbooks/db.yml --private-key ssh-keys/id\_rsa -i "192.168.50.11," -u vagrant

<https://martinfowler.com/bliki/InfrastructureAsCode.html>

<https://martinfowler.com/bliki/ImmutableServer.html>

## vagrant up <nome da máquina>

vagrant destroy -f <nome da máquina>

vagrant ssh <nome da máquina>

<https://docs.ansible.com/ansible/latest/modules/apt_module.html>

pipeline {

agent any

stages {

stage('Build & Test') {

steps {

git 'git@github.com:newtonbeck/curso-devops.git'

sh "mvn clean package"

sh 'chmod 400 infra/ssh-keys/id\_rsa'

sh 'scp -o StrictHostKeyChecking=no -i infra/ssh-keys/id\_rsa target/alura-forum-0.0.1-SNAPSHOT.war vagrant@192.168.50.12:/home/vagrant/alura-forum.war'

sh "ssh -o StrictHostKeyChecking=no -i infra/ssh-keys/id\_rsa vagrant@192.168.50.12 'sudo mv /home/vagrant/alura-forum.war /var/lib/tomcat8/webapps/alura-forum.war'"

}

}

}

post {

success {

archiveArtifacts 'target/\*.war'

}

}

}

<https://github.com/magro/memcached-session-manager/wiki/SetupAndConfiguration>

## 

## Galera, bora fazer um grupo no Whatsapp para troca de informações e experiências?

bora!!!

Link do grupo: <https://chat.whatsapp.com/H2ZzfQ4nyMK1iIUSIldHiA>

<https://github.com/caelum/apostila-devops>

Aula 1 (08/02)

* Carpaccio Elephant (<https://qualibrate.com/blog/wp-content/uploads/2018/09/Elephant_Carpaccio_exercise.pdf>)
* Lean Lego Game (<https://www.dtsato.com/blog/work/lean-lego-game/>)

## Métricas

* Lead time (tempo entre recebimento de uma tarefa e a entrega)
* MTTR (Mean Time To Recover)
* Change Failure Rate
* Deployment Frequency

## Palestras

* <https://www.youtube.com/watch?v=LdOe18KhtT4> (palestra sobre 10+ deploys por dia do Flickr)

Para ler

* Release it (<https://www.amazon.com.br/Release-Design-Deploy-Production-Ready-Software/dp/1680502395/ref=asc_df_1680502395/?tag=googleshopp00-20&linkCode=df0&hvadid=379726163686&hvpos=1o1&hvnetw=g&hvrand=17896330270042646023&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1001773&hvtargid=pla-380328175883&psc=1>)
* Accelerate (<https://www.amazon.com.br/Accelerate-Software-Performing-Technology-Organizations-ebook/dp/B07B9F83WM/ref=asc_df_B07B9F83WM/?tag=googleshopp00-20&linkCode=df0&hvadid=379715983095&hvpos=1o1&hvnetw=g&hvrand=14440160033019048549&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1001773&hvtargid=pla-643993411662&psc=1>)
* Continuous Delivery (Jess Humble)
* Blitzscaling (<https://hbr.org/2016/04/blitzscaling>)
* The Phoenix Project (Gene Kim) (<https://www.amazon.com.br/projeto-f%C3%AAnix-Gene-Kim/dp/8550801895/ref=asc_df_8550801895/?tag=googleshopp00-20&linkCode=df0&hvadid=379765802390&hvpos=1o1&hvnetw=g&hvrand=3702453994208260524&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1001773&hvtargid=pla-812161948508&psc=1>)
* The DevOps Handbook (Gene Kim) (<https://www.amazon.com.br/Agilidade-Confiabilidade-Seguran%C3%A7a-Organiza%C3%A7%C3%B5es-Tecnol%C3%B3gicas/dp/8550802697/ref=pd_bxgy_img_2/130-8259314-0955736?_encoding=UTF8&pd_rd_i=8550802697&pd_rd_r=e5ff50f3-4339-46a8-a695-0b8f8441d170&pd_rd_w=V9NhT&pd_rd_wg=2mXwk&pf_rd_p=7bb69549-4d67-4c65-960c-974d9dd0f8c0&pf_rd_r=562P6ZEC5QAGVRKJ9ZVG&psc=1&refRID=562P6ZEC5QAGVRKJ9ZVG>)
* The Goal

## Autores (Manifesto Ágil):

* Martin Fowler
* Uncle Bob
* Kent Beck
* Alistair Cockburn

Site Russo!

http://gen.lib.rus.ec

Aula 2 (15/02)

## Programas que precisamos para montar o ambiente de desenvolvimento

* Eclipse for JavaEE Developers: <https://www.eclipse.org/downloads/packages/release/2019-12/r/eclipse-ide-enterprise-java-developers>
* <https://tomcat.apache.org/download-80.cgi>
* MySQL Server
* Fabric.io

## Comandos

* cd (mudar de pasta)
* ls (listar arquivos)
* pwd (saber onde estou)
* ~/ é a home do nosso usuário
* cat (para imprimir um arquivo no terminal)
* ps aux (listar os processos do computador)
* grep (fazer buscas)
* ssh (faz acesso remoto)
* scp (copia arquivos entre computadors)
* cp (copia arquivos dentro de um pc)
* sudo (para executar alguma coisa como super admin)
* chmod (para trocar permissões de um arquivo)
* chown (mudar o dono, owner)
* chgrp (mudar o grupo)
* sudo su (não precisa dar sudo nos comandos)
* tail -f
* mkdir (para criar diretórios)
* rm (para remover arquivos ou diretórios)

## Para quem tiver problemas com Java mais novo

* <https://mvnrepository.com/artifact/javax.xml.bind/jaxb-api/2.3.1> baixar o jar daqui e colocar dentro da pasta WebContent/WEB-INF/lib

## Sites para hospedar seus projetos com Git

* GitHub
* GitLab
  + <https://about.gitlab.com/company/culture/all-remote/guide/> sobre trabalho remoto no GitLab
* Bitbucket

## Ferramentas para automatizar a criação e provisionamento de máquinas virtuais

* Vagrant
* Ansible
* Puppet
* Chef

## Projeto com Maven e onde encontrar os “jars” no Maven

# <https://raw.githubusercontent.com/newtonbeck/curso-dev-ops/master/pom.xml>

* <https://mvnrepository.com/>

# Servidores web que usamos na AWS (já foram destruídos)

|  |  |
| --- | --- |
| Pessoa | IP |
| Ruben | 18.228.220.206 |
| Eduardo Gonçalves | 18.230.17.126 |
| Juliane | 52.67.170.94 |
| Eduardo Freitas | 18.228.195.95 |
| Karine | 52.67.73.238 |
| Rafael | 18.229.148.82 |
| Wendel | - |
| Thiago | 18.231.83.0 |
| Natanael | 52.67.64.149 |
| Natan | 18.229.133.189 |
| Newton | 18.229.117.205 |

ssh -i curso-devopspem.pem ubuntu@<IP>

sudo apt-get update

sudo apt-get install openjdk-8-jre tomcat8

scp -i curso-devopspem.pem alura-forum.war ubuntu@<IP>:/home/ubuntu

sudo chown root alura-forum.war

sudo chgrp root alura-forum.war

sudo mv alura-forum.war /var/lib/tomcat8/webapps/

/var/lib/tomcat8/webapps/

# Máquinas de banco de dados que usamos na AWS (já foram destruídas)

|  |  |
| --- | --- |
| Pessoa | IP |
| Ruben | 18.231.74.209 |
| Eduardo Gonçalves | 18.228.225.181 |
| Juliane | 52.67.157.125 |
| Eduardo Freitas | 18.228.9.110 |
| Karine | 54.233.88.111 |
| Rafael | 52.67.79.133 |
| Wendel | 18.231.125.186 |
| Thiago | 52.67.141.220 |
| Natanael | 18.229.124.208 |
| Natan | 18.228.38.66 |
| Newton | 18.231.121.27 |

chmod 400 curso-devopspem.pem

ssh -i curso-devopspem.pem ubuntu@

scp -i curso-devopspem.pem script-inicial.sql ubuntu@<IP>:/home/ubuntu

<https://raw.githubusercontent.com/caelum/apostila-devops/master/arquivos-curso/script-inicial.sql>

sudo systemctl restart mysql

mysql -u alura -h <IP> -p

ALTER USER 'alura'@'%' IDENTIFIED BY 'NEW\_USER\_PASSWORD';

FLUSH PRIVILEGES;

Aula 3 (29/02)

# Comandos do git

git init - que inicia um repositório git (cria um diretório .git)

git status - mostra o estado atual do repositório (limpo e sujo)

git add - adicionar os arquivos

git commit -m “Mensagem” - realiza o commit dos arquivos (<http://karma-runner.github.io/4.0/dev/git-commit-msg.html>)

git push - envia os commits locais para o repositório remoto

# Aliases do Git

~/.bash\_profile

~/.zshrc

alias g="git"

~/.gitconfig

[alias]

ci = commit

co = checkout

st = status

lg = log

df = diff

br = branch

# Testes automatizados

<https://martinfowler.com/bliki/TestPyramid.html>

Testes de unidade simples: <https://github.com/newtonbeck/forum-alura/blob/master/src/test/java/br/com/alura/forum/model/TopicoTest.java>

Testes de unidade usando mocks:

<https://site.mockito.org/>

<https://mvnrepository.com/artifact/org.mockito/mockito-all/1.10.19>

<https://github.com/newtonbeck/forum-alura/blob/master/src/test/java/br/com/alura/forum/service/UsuarioServiceTest.java>

Testes de UI usando Selenium:

<https://mvnrepository.com/artifact/org.seleniumhq.selenium/selenium-java>

Chromedriver para rodar os testes com Selenium: <https://chromedriver.storage.googleapis.com/index.html?path=77.0.3865.40/>

<https://github.com/newtonbeck/forum-alura/blob/master/src/test/java/br/com/alura/forum/aceitacao/cadastro/FluxoDeCadastroTest.java>

@Before

public void antes() {

System.setProperty("webdriver.chrome.driver","./chromedriver");

}

<https://github.com/newtonbeck/forum-alura>

Rodando os testes pelo maven

mvn test - roda os testes da aplicação

time mvn test - time mostra o tempo total de execução de um programa

echo $? - mostra o código de saída dos programas

# Livros

Domain Drive Design: <https://www.amazon.com.br/Domain-Driven-Design-Eric-Evans/dp/8550800651/ref=asc_df_8550800651/?tag=googleshopp00-20&linkCode=df0&hvadid=379739109739&hvpos=&hvnetw=g&hvrand=10274433507674937714&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1001773&hvtargid=pla-809277038576&psc=1>

<https://www.amazon.com.br/Building-Microservices-Sam-Newman/dp/1491950358/ref=asc_df_1491950358/?tag=googleshopp00-20&linkCode=df0&hvadid=379726160779&hvpos=&hvnetw=g&hvrand=2154723869077685374&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1001773&hvtargid=pla-448095044314&psc=1>

Metaprogramação em Java: <https://www.casadocodigo.com.br/products/livro-reflexao-anotacoes>

SRE aplicado a Mobile: <https://landing.google.com/sre/resources/practicesandprocesses/engineering-reliable-mobile-applications/>

Clean Code: <https://www.amazon.com.br/dp/B001GSTOAM/ref=dp-kindle-redirect?_encoding=UTF8&btkr=1>

Haskell:

<http://pesquisa.ufabc.edu.br/haskell/posts/categorias/01-Categorias.html>

<https://bartoszmilewski.com/2014/10/28/category-theory-for-programmers-the-preface/>

# Artigos e palestras

Testes automatizados em React Native: <https://s3-sa-east-1.amazonaws.com/thedevconf/presentations/TDC2019FLP/devtest/UXA-6035_2019-04-29T014003_Como+testamos+React+Native+no+Nubank.pdf> / <https://github.com/chagasaway/tdc-2019>

Como mitigar testes flaky: <https://engineering.linkedin.com/blog/2015/12/test-stability---how-we-make-ui-tests-stable>

Page Objects para testes de UI: <https://martinfowler.com/bliki/PageObject.html>

Testes Headless com Selenium: <https://hackernoon.com/introduction-to-headless-chrome-with-java-b591bc4764a0>

# Cursos

Haskell: <http://pesquisa.ufabc.edu.br/haskell/cursos/20.q1.haskell/> / <http://pesquisa.ufabc.edu.br/haskell/cursos/19.q2.categorias/>

Aula 4 (07/03)

<https://tekton.dev/>

<https://jenkins-x.io/>

<https://codemagic.io/start/>

<https://www.liquibase.org/>

<https://jenkins.io/download/>

<https://github.com/newtonbeck/curso-devops/blob/master/ci/Jenkinsfile-ci>

Aula 5 (Docker)

docker

docker images - lista as imagens baixadas

docker ps - lista os containers que estão em execução

docker inspect <id do container>

docker rm -f <id do container> - para o container e remove ele

docker pull mysql:5.7

docker run mysql:5.7

docker logs -f <id do container>

docker exec -it <id do container> sh / docker exec -it <id do container> /bin/bash

docker run -e "MYSQL\_ROOT\_PASSWORD=toor" -p 3306:3306 -d mysql:5.7

docker run - e “MYSQL\_ROOT\_PASSWORD=toor” mysql:5.7

docker run -e "MYSQL\_ROOT\_PASSWORD=toor" -p 3306:3306 -v /Users/newtonangelini/mysql:/var/lib/mysql -v /usr/bin/mysql:/usr/bin/mysql -d mysql:5.7

<https://raw.githubusercontent.com/newtonbeck/curso-devops/master/infra/db/script.sql>

docker build -t alura-forum:latest .

docker run -p 8080:8080 alura-forum:latest

<https://github.com/newtonbeck/curso-devops/blob/master/src/main/java/br/com/alura/forum/config/JPAConfiguration.java>

<https://hub.docker.com/>

<https://quay.io/>

docker login

docker build -t newtonbeck/alura-forum:latest .

docker build -t <usuario docker>/alura-forum:latest .

mvn clean package

docker push <usuario docker>/alura-forum:latest

docker run -e "MYSQL\_ROOT\_PASSWORD=toor" -p 3306:3306 -d --name mysql mysql:5.7

docker d -p 8080:8080 -e "FORUM\_DB\_URL=jdbc:mysql://mysql:3306/alura\_forum?useSSL=false" --link mysql:mysql -d <usuario do docker hub>/alura-forum:latest

Para usar um volume docker:

1. Criar o volume: docker volume create <volume\_name>
   1. Listar: docker volume ls
   2. Inspecionar: docker volume inspect <volume\_name>
2. Mapear o volume para dentro de um path no container: docker run -e "MYSQL\_ROOT\_PASSWORD=toor" -p 3306:3306 -d -v <volume\_name>:/var/lib/mysql mysql:5.7

<https://kubernetes.io/docs/tasks/tools/install-minikube/>

minikube start

<https://cloud.google.com/kubernetes-engine/docs/how-to/cluster-access-for-kubectl?hl=pt-br>

<https://github.com/newtonbeck/curso-devops/tree/master/infra/k8s>

kubectl get <pod|deploy|service|svc|pvc>

kubectl apply -f mysql-deployment.yaml

kubectl get pod

kubectl exec -it <pod> -c <nome do container> /bin/bash

CRIA O BANCO

kubectl apply -f web-deployment.yaml

kubectl logs -f <pod> -c <nome do container>

minikube service web --url

<https://kubernetes.io/docs/tutorials/>

<https://github.com/newtonbeck/java-k8s-web>

docker-compose up -d

<https://sistema.caelum.com.br/avaliacao/bff5ccf>

Push

StatsD + Graphite + Graphana

<https://github.com/kamon-io/docker-grafana-graphite>

Pull

<https://prometheus.io/docs/introduction/first_steps/>

Prometheus + Grafana

<https://www.zabbix.com/>

<https://newrelic.com/>

<https://www.honeycomb.io/>

<https://www.nagios.org/>

<https://medium.com/@copyconstruct/monitoring-and-observability-8417d1952e1c>

<https://twitter.com/copyconstruct>

<https://twitter.com/mipsytipsy>

<https://charity.wtf/>

<https://charity.wtf/2019/11/23/questionable-advice-after-being-a-manager-can-i-be-happy-as-a-cog/>

<https://www.honeycomb.io/resources/white-papers/>

<https://www.amazon.com.br/Designing-Data-Intensive-Applications-Reliable-Maintainable-ebook/dp/B06XPJML5D/ref=asc_df_B06XPJML5D/?tag=googleshopp00-20&linkCode=df0&hvadid=379787267723&hvpos=&hvnetw=g&hvrand=16058775309457727723&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1001773&hvtargid=pla-406130981705&psc=1>

<https://medium.com/@jeanmorais/monitorando-aplica%C3%A7%C3%B5es-spring-boot-de-forma-escal%C3%A1vel-no-kubernetes-com-prometheus-operator-e-326f63bb5b00>

ELASTIC SEARCH?

ZABBIX?

<http://docs.graylog.org/en/3.2/pages/architecture.html#minimum-setup>

<https://www.elastic.co/pt/what-is/elk-stack>

<https://istio.io/>

<https://principlesofchaos.org/?lang=ENcontent>

<https://hipsters.tech/tecnologias-na-stackoverflow-hipsters-46/>

<https://github.com/Netflix/chaosmonkey>

<https://netflixtechblog.com/tagged/chaos-kong>

<https://martinfowler.com/articles/feature-toggles.html>

<https://medium.com/google-cloud/kubernetes-canary-deployments-for-mere-mortals-13728ce032fe>