

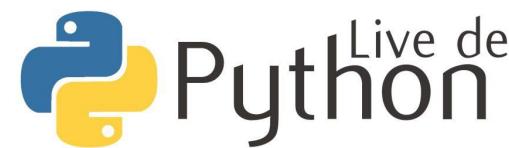
# Selenium testing

A new hope



Olar BBs

{twitter,  
git(lab|hub),  
instagram,  
telegram  
} /dunossauro



# [youtube.com/c/eduardomendes](https://youtube.com/c/eduardomendes)

The screenshot shows the YouTube channel page for 'Live de Python' by Eduardo Mendes. The channel has 7,88 mil inscritos. The main navigation bar includes links for INÍCIO, VÍDEOS (which is underlined), PLAYLISTS, COMUNIDADE, CANAIS, SOBRE, and a search icon. There are also buttons for PERSONALIZAR O CANAL and YOUTUBE STUDIO (BETA). Below the navigation, there are two rows of video thumbnails. The first row contains six videos: 'Live de Python #107 - Flask templates a vera - com StatusOK' (1.55:05), 'Live de Python #106 - Integração contínua' (1:37:38), 'Criando uma API com flask + BDD + TDD + Marshmallow' (2:53:49), 'Live de Python #105 - Estruturas de decisão' (1:45:43), 'Live de Python #104 - 12 FactorApp - Com Bruno Rocha' (2:01:13), and 'Live de Python #103 - Fazendo música com FoxDot - Com Diego Dukka' (1:31:54). The second row contains three more videos: 'Live de Python #103 - Fazendo música com FoxDot - Com Diego Dukka' (16:46), 'Live de Python #102 - TDD com Mamba e Expect' (1:43:12), and 'Live de Python #101 - WSGI, Unicorn, PEP-333(3)' (1:35:10).

Eduardo Mendes  
7,88 mil inscritos

PERSONALIZAR O CANAL   YOUTUBE STUDIO (BETA)

INÍCIO   VÍDEOS   PLAYLISTS   COMUNIDADE   CANAIS   SOBRE  

Envios ▾   REPRODUIR TODOS   CLASSIFICAR POR

Vídeo	Descrição	Duração
Live de Python #107 - Flask templates a vera - com StatusOK	Flask templates a vera - com StatusOK	1.55:05
Live de Python #106 - Integração contínua	Integração contínua	1:37:38
Criando uma API com flask + BDD + TDD + Marshmallow		2:53:49
Live de Python #105 - Estruturas de decisão	Estruturas de decisão	1:45:43
Live de Python #104 - 12 FactorApp - Com Bruno Rocha	12 FactorApp - Com Bruno Rocha	2:01:13
Live de Python #103 - Fazendo música com FoxDot - Com Diego Dukka	Fazendo música com FoxDot - Com Diego Dukka	1:31:54
Live de Python #103 - Fazendo música com FoxDot - Com Diego Dukka	Fazendo música com FoxDot - Com Diego Dukka	16:46
Live de Python #102 - TDD com Mamba e Expect	TDD com Mamba e Expect	1:43:12
Live de Python #101 - WSGI, Unicorn, PEP-333(3)	WSGI, Unicorn, PEP-333(3)	1:35:10

# Selenium

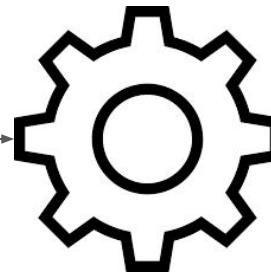


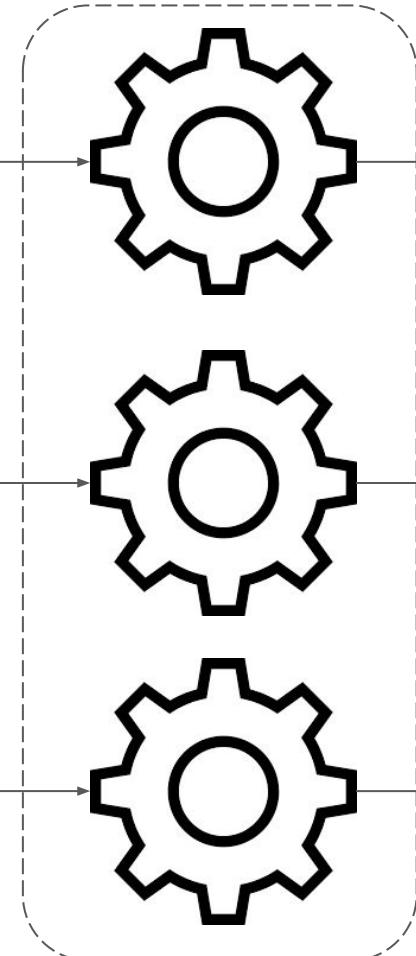
<https://www.seleniumhq.org/>

# Selenium

The selenium project was started in 2004 and has since become a "standard" for browser automation.

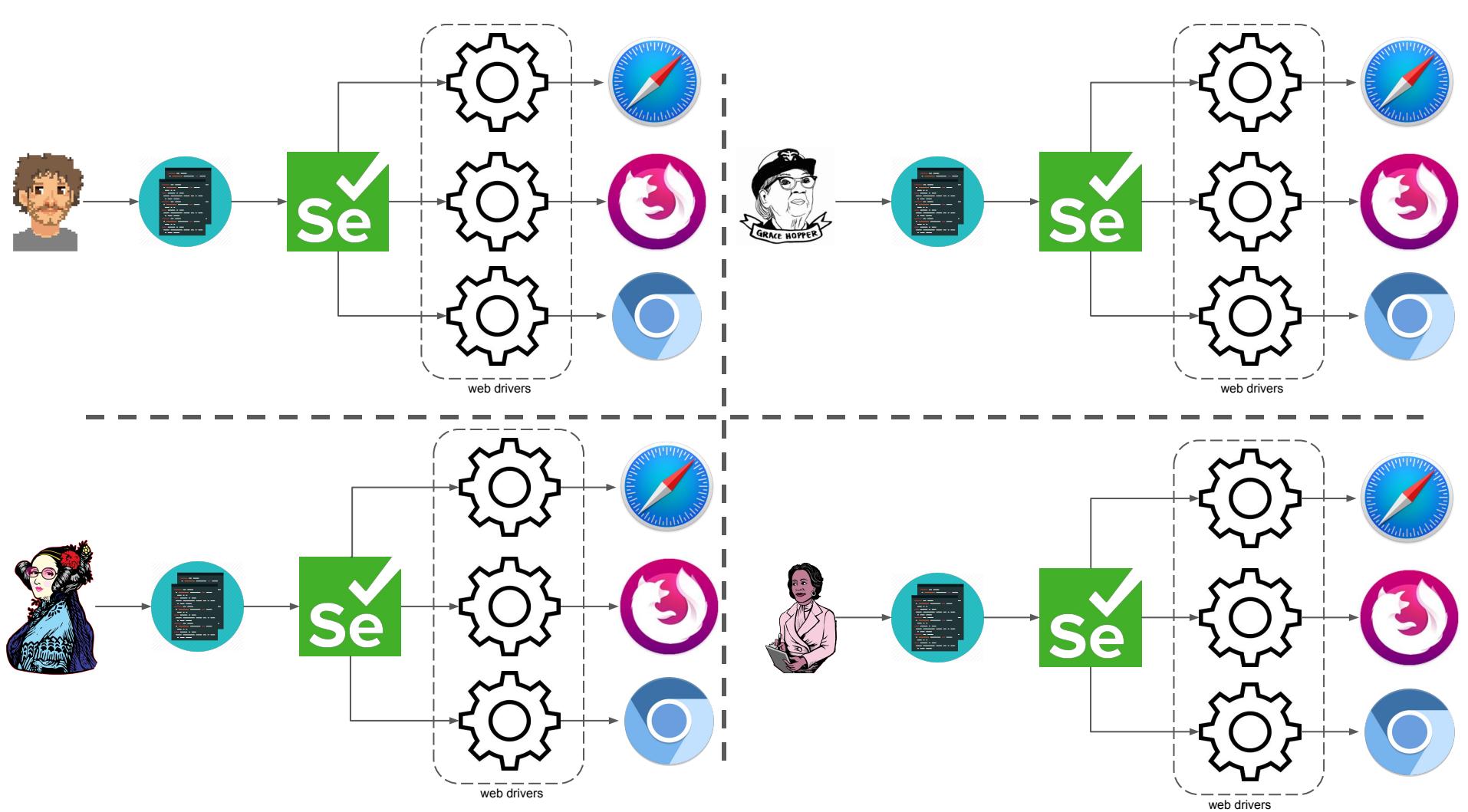


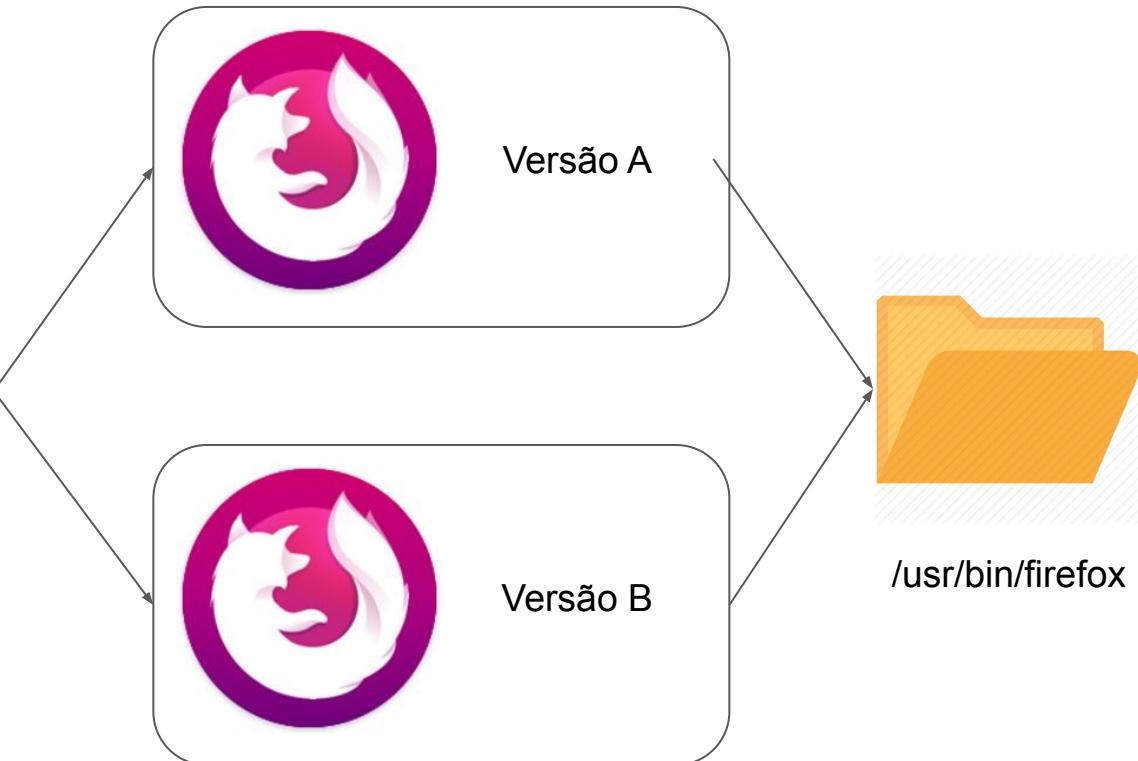
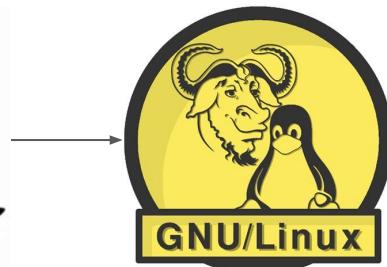




web drivers

Life is not a bed of  
roses





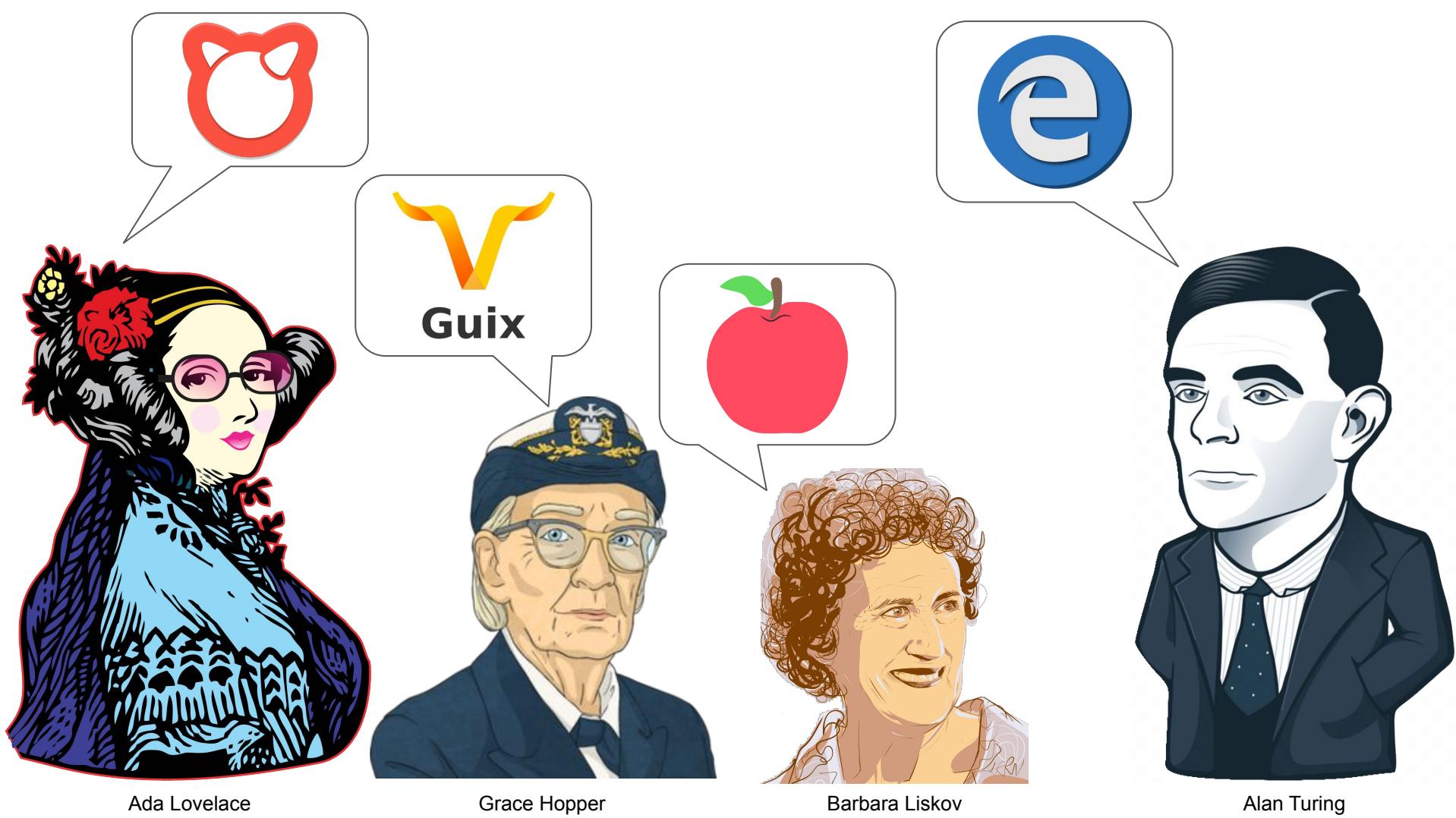
Versão A

Versão B

/usr/bin/firefox



Alan Turing

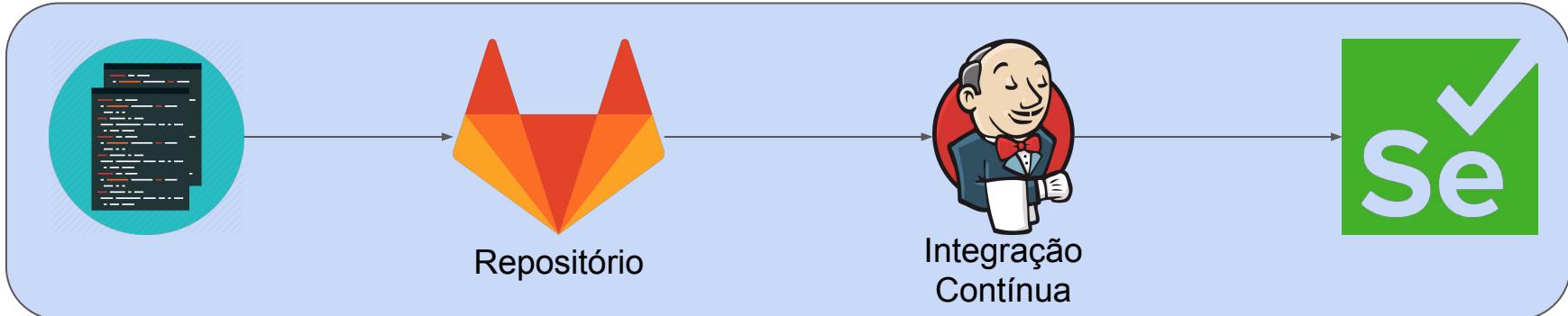


Ada Lovelace

Grace Hopper

Barbara Liskov

Alan Turing



Bá, qual a versão do  
Gecko driver que tenho  
que usar pra funcionar  
com o Firefox 57?



Annie Easley



Você tem que ir no site  
de releases do gecko  
pra saber! :(

Barbara Liskov

Annie Easley

 Code

 Issues 147

 Pull requests 0

 Security

 Insights

 Releases

 Tags

 Latest release

 v0.26.0

 79bc0ed

# v0.26.0



andreasstt released this 5 days ago

Built from [e9783a644016](#).

Note that with this release the minimum recommended Firefox version has changed to Firefox ≥60.

# Selenium Grid

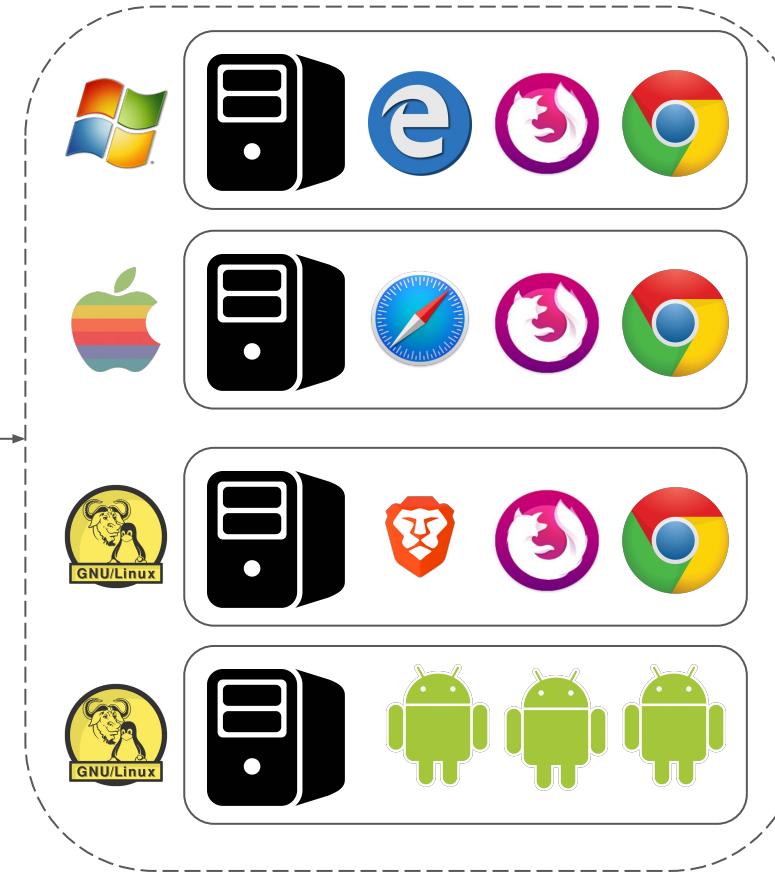
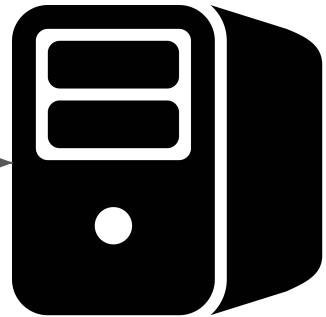
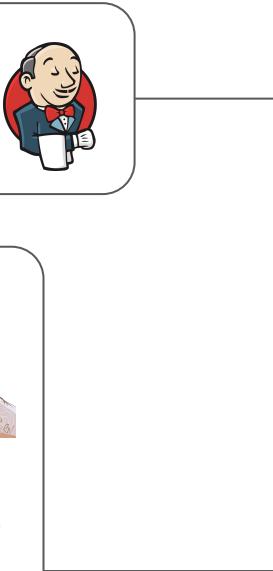


<https://www.seleniumhq.org/>

# Automações



Time



Nodes

Life is not a bed of  
roses

1. There is no pleasant way to assemble this architecture.

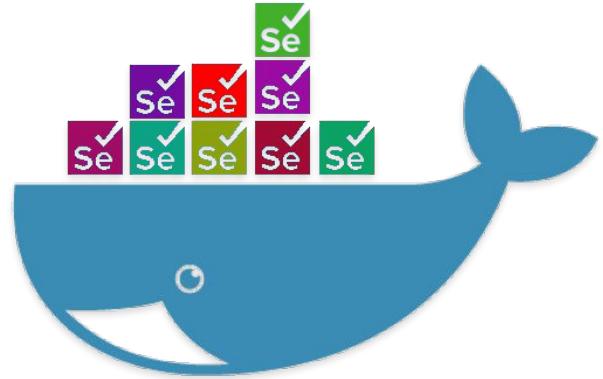
- Install java
- Download selenium
- Download web drivers
- Unpack Web Drivers
- Install all versions of corresponding browsers

Repeat operation on all nodes with different OSs

2. Unfocused Browsers

3. Cost to maintain  
infrastructure

# Selenium Docker



<https://github.com/SeleniumHQ/docker-selenium>

# Selenium Docker

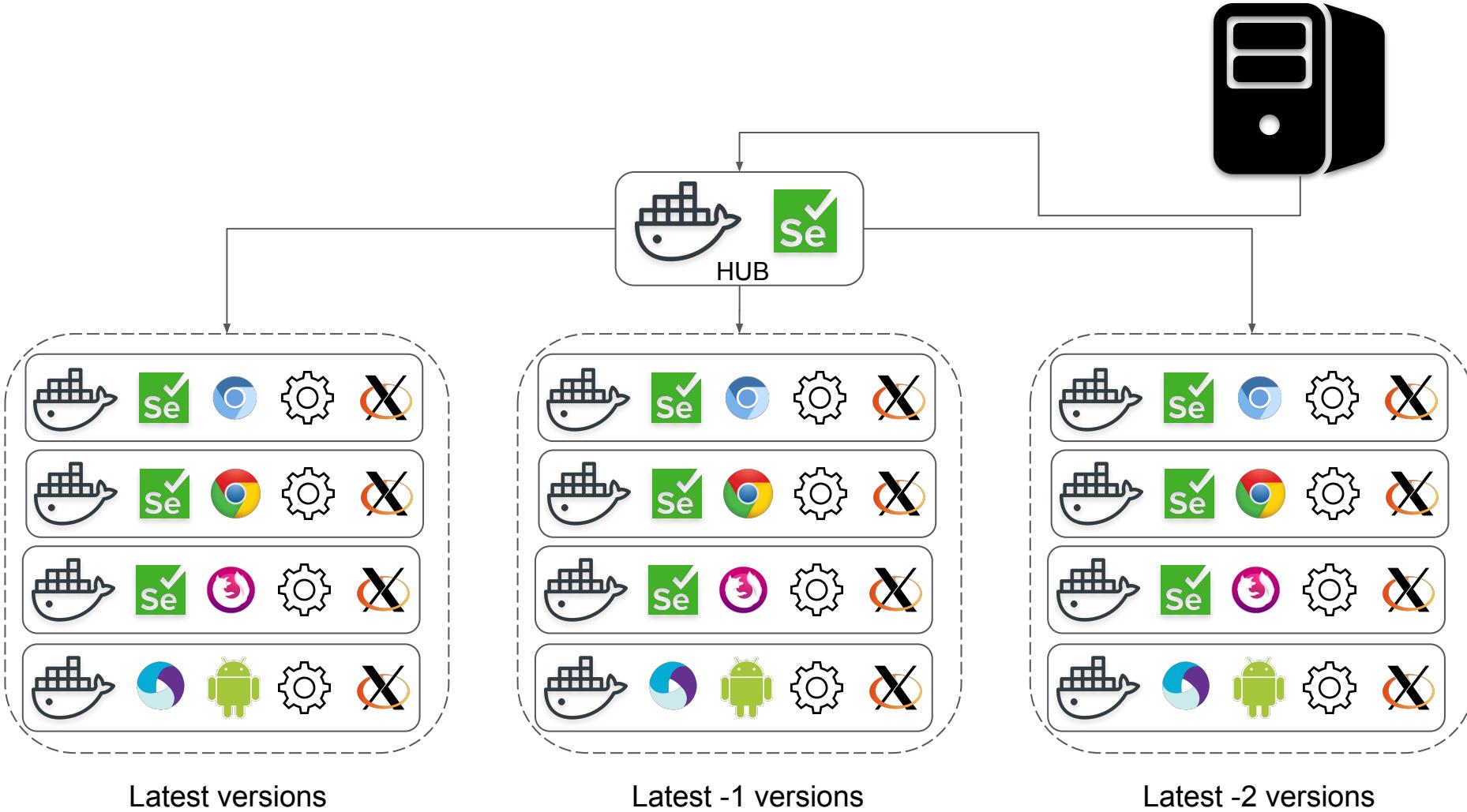
The project is made possible by volunteer contributors who have put in thousands of hours of their own time, and made the source code freely available under the [Apache License 2.0](#).

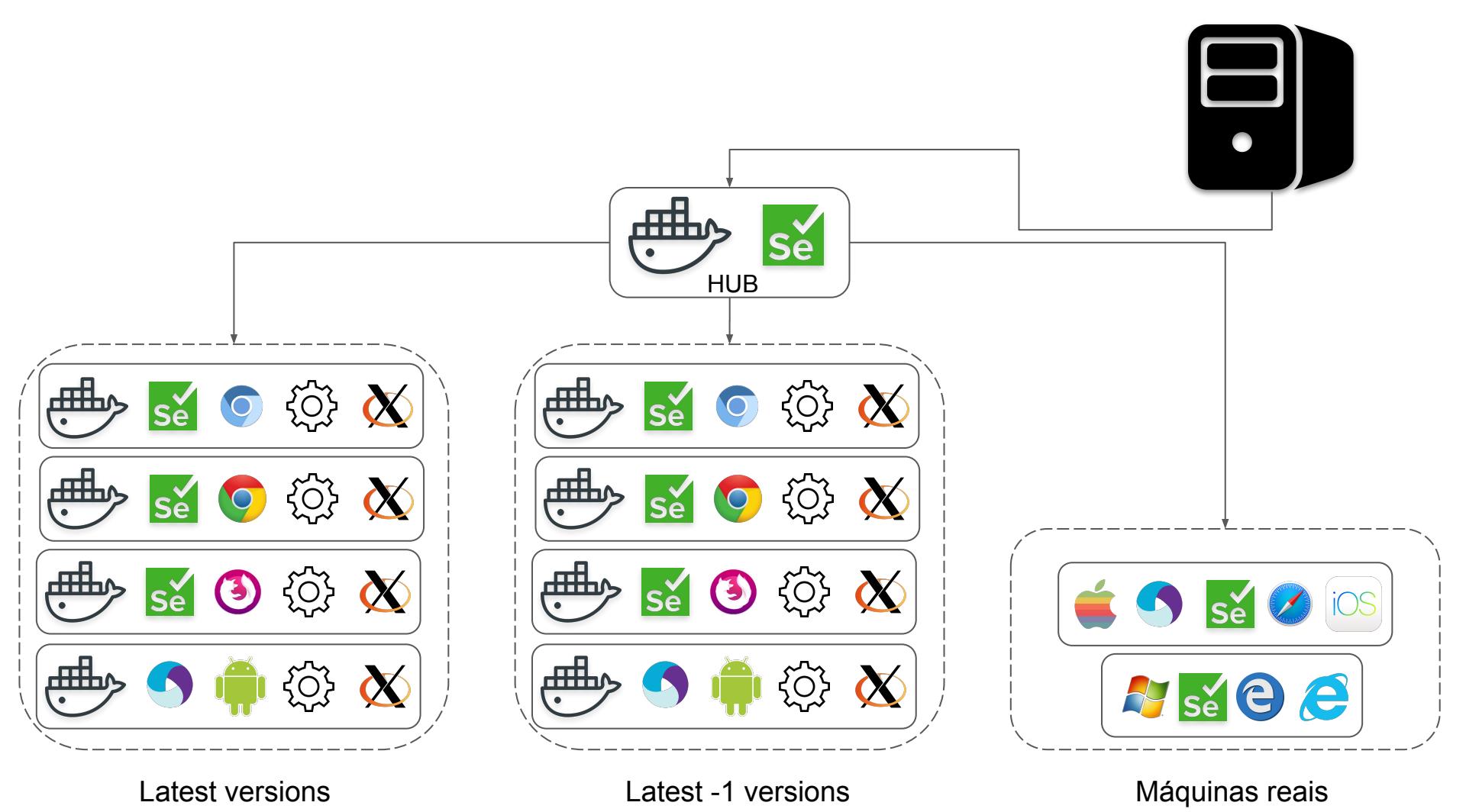
## Docker images for Selenium Standalone Server Hub and Node configurations with Chrome and Firefox

[Travis CI](#)

Images included:

- **selenium/base**: Base image which includes Java runtime and Selenium Server JAR file
- **selenium/hub**: Image for running a Grid Hub
- **selenium/node-base**: Base image for Grid Nodes which includes a virtual desktop environment
- **selenium/node-chrome**: Grid Node with Chrome installed, needs to be connected to a Grid Hub
- **selenium/node-firefox**: Grid Node with Firefox installed, needs to be connected to a Grid Hub
- **selenium/node-chrome-debug**: Grid Node with Chrome installed and runs a VNC server, needs to be connected to a Grid Hub
- **selenium/node-firefox-debug**: Grid Node with Firefox installed and runs a VNC server, needs to be connected to a Grid Hub
- **selenium/standalone-chrome**: Selenium Standalone with Chrome installed
- **selenium/standalone-firefox**: Selenium Standalone with Firefox installed
- **selenium/standalone-chrome-debug**: Selenium Standalone with Chrome installed and runs a VNC server
- **selenium/standalone-firefox-debug**: Selenium Standalone with Firefox installed and runs a VNC server





```
version: '2'
services:
  firefox:
    image: selenium/node-firefox:3.14.0-gallium
    volumes:
      - /dev/shm:/dev/shm
    depends_on:
      - hub
    environment:
      HUB_HOST: hub

  chrome:
    image: selenium/node-chrome:3.14.0-gallium
    volumes:
      - /dev/shm:/dev/shm
    depends_on:
      - hub
    environment:
      HUB_HOST: hub

  hub:
    image: selenium/hub:3.14.0-gallium
    ports:
      - "4444:4444"
```

```
version: '2'
services:
  firefox:
    image: selenium/node-firefox:3.14.0-gallium
    volumes:
      - /dev/shm:/dev/shm
    depends_on:
      - hub
    environment:
      HUB_HOST: hub

  chrome:
    image: selenium/node-chrome:3.14.0-gallium
    volumes:
      - /dev/shm:/dev/shm
    depends_on:
      - hub
    environment:
      HUB_HOST: hub

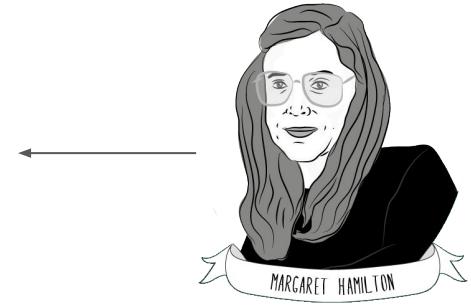
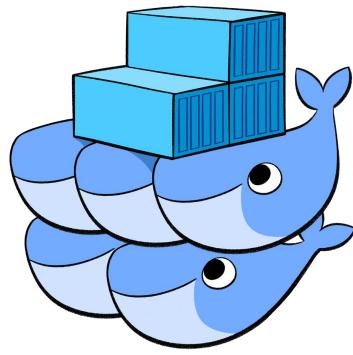
  hub:
    image: selenium/hub:3.14.0-gallium
    ports:
      - "4444:4444"
```

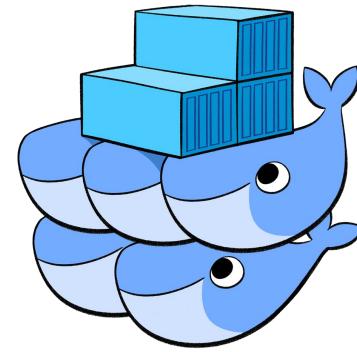
Easy to maintain

\$ docker-compose up --build

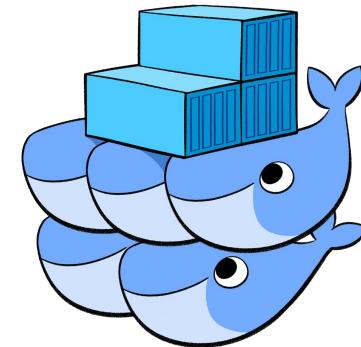
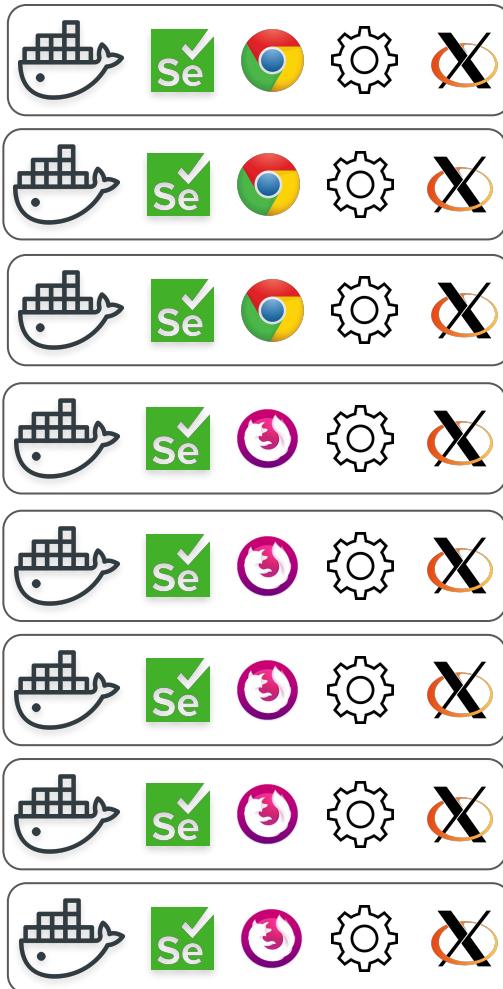
\$ docker-compose scale firefox=5

\$ docker-compose scale chrome=5





```
$ docker-compose up --build
```



```
$ docker-compose scale chrome=3
```

```
$ docker-compose scale firefox=5
```

Life is not a bed of  
roses

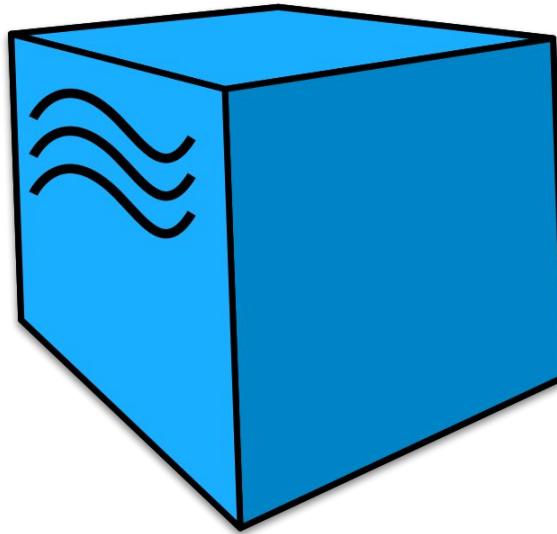
# Grid usage

- Each container requires ~150MB to standby mode
- A connected container consumes ~300MB
- + xxxMB consumed per page opening aperture

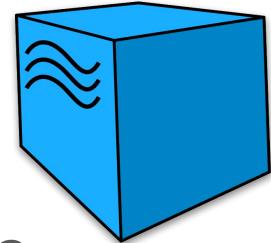
```
$ docker-compose scale firefox=50
```



# Selenoid



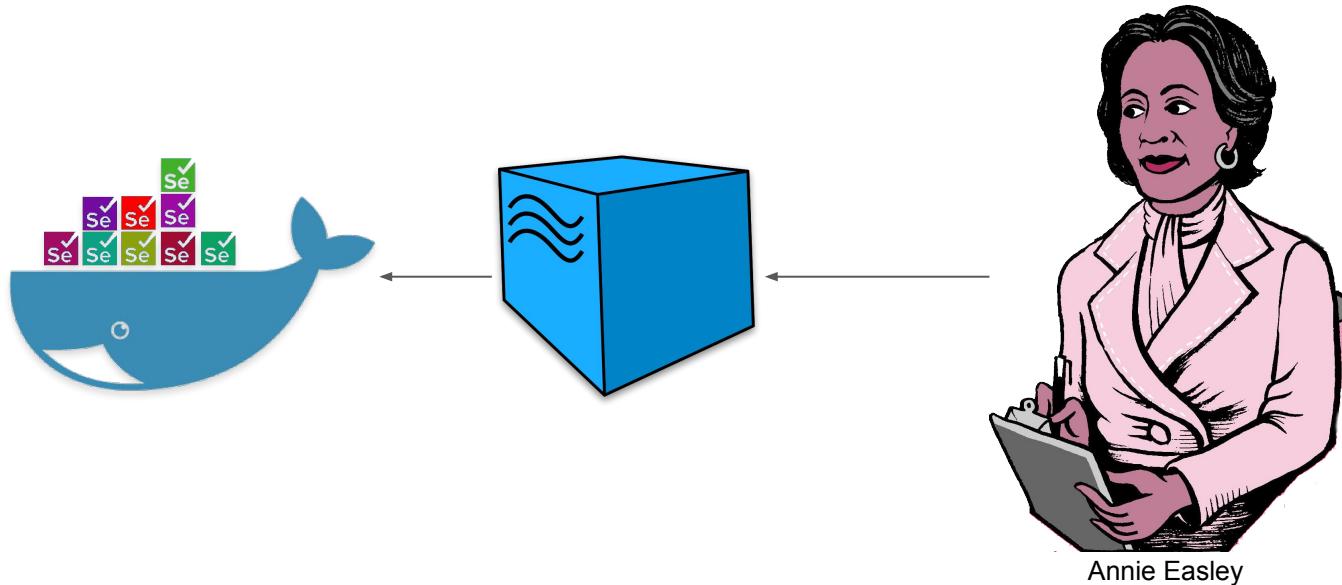
<https://github.com/aerokube/selenoid>



# Selenoid

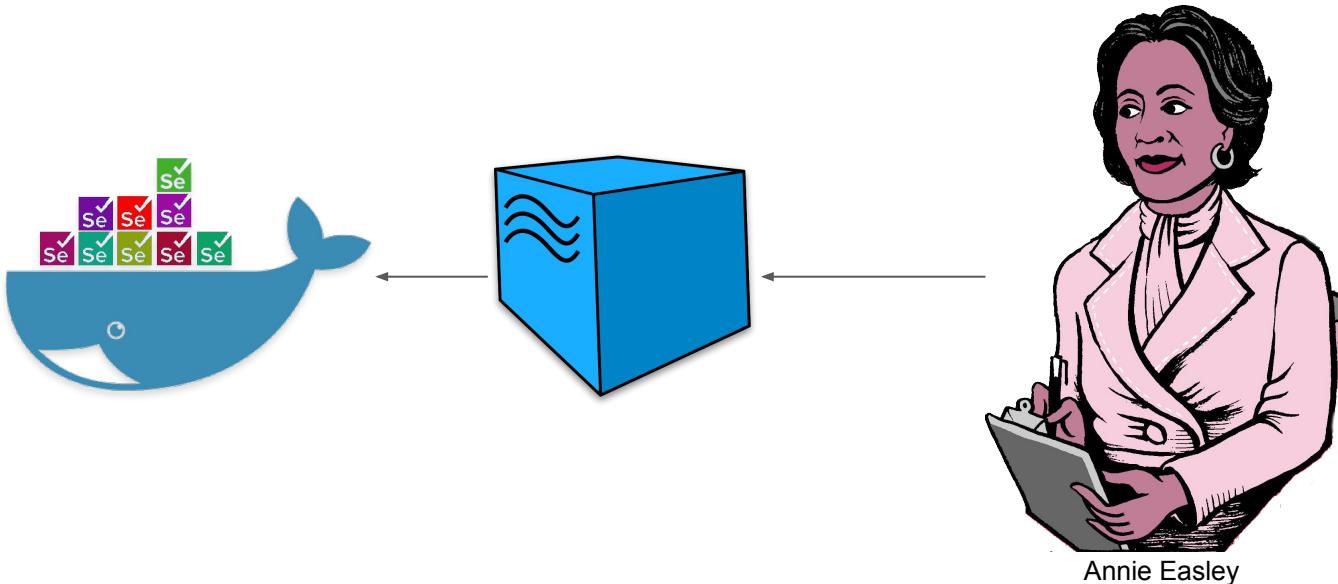
It is a project started in 2017 by Aerokube, which provides a powerful Go implementation of the original Selenium hub. With the same calls, but managing the containers for you.

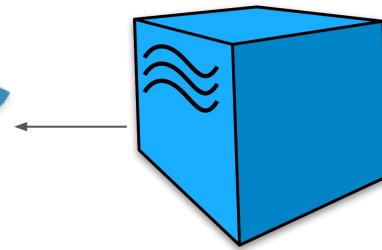
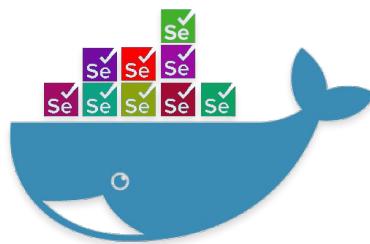
```
$ curl -s https://aerokube.com/cm/bash  
$ ./cm selenoid start
```



Annie Easley

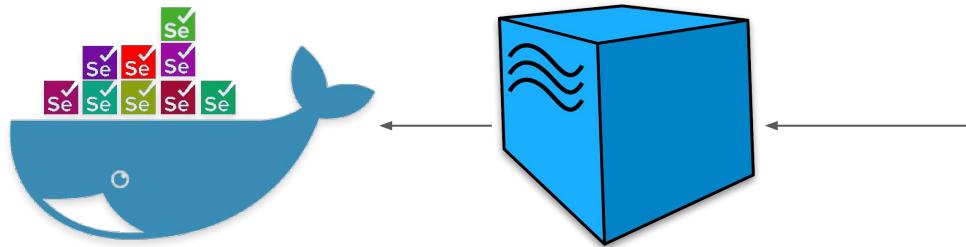
```
driver = webdriver.Remote(  
    command_executor="http://localhost:4444/wd/hub",  
    desired_capabilities=ff_capabilities  
)
```





Annie Easley

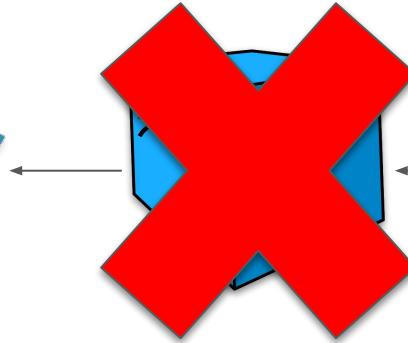
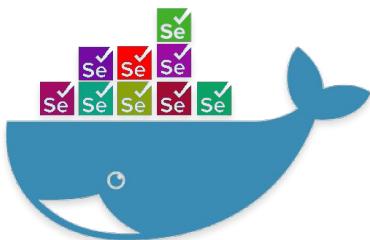
```
driver = webdriver.Remote(  
    command_executor="http://localhost:4444/wd/hub",  
    desired_capabilities=gc_capabilities  
)
```



Annie Easley

Life is not a bed of  
roses

**Não é tolerante  
a falhas**



Annie Easley

# GGR

Go Grid Router



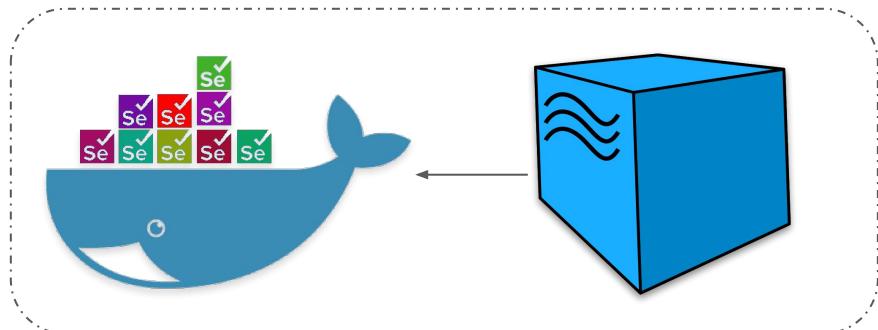
<https://github.com/aerokube/ggr>



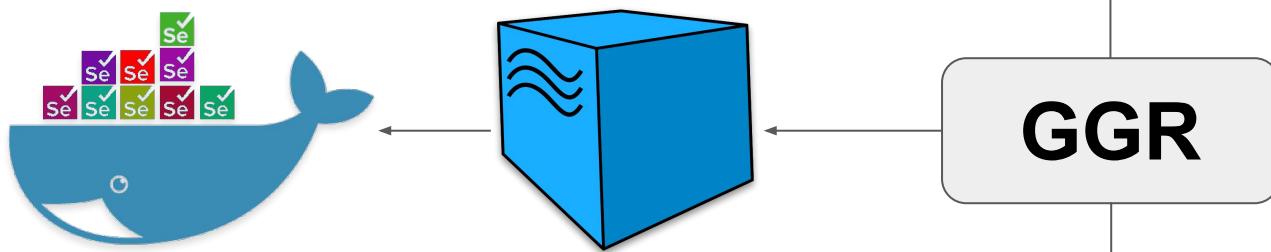
# Go Grid Router

It is a project started in 2016 by Aerokube, which provides a powerful Go grid implementation, of GR (grid router) maintained by the seleniumkit team, which did has problems to scale and had HARD installation issues.

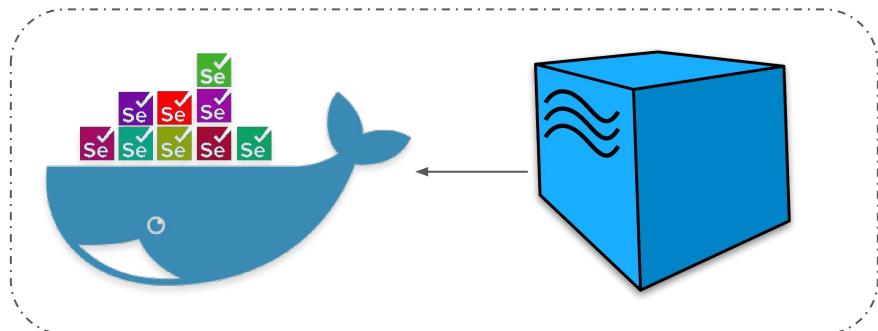
Brasil



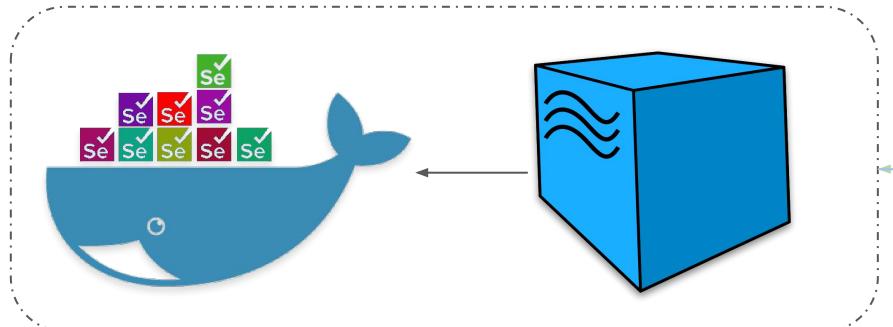
?????



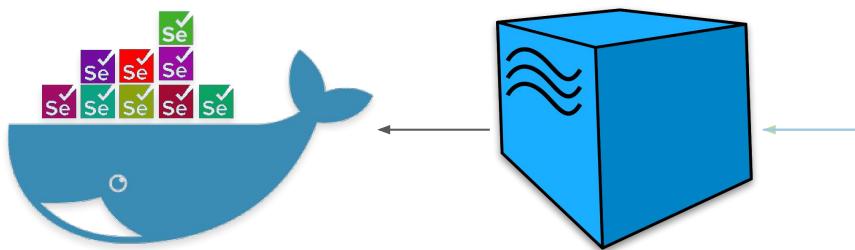
Estonia



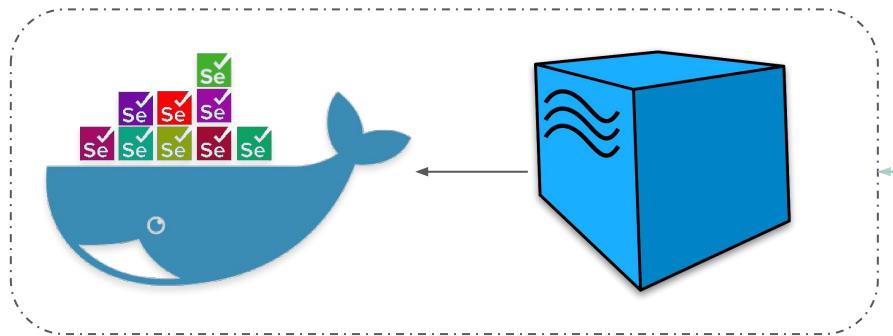
Brasil



?????



Estonia



## Quotas

```
<qa:browsers xmlns:qa="urn:config.gridrouter.qatools.ru">
  <browser name="firefox" defaultVersion="33.0">
    <version number="38.0">
      <region name="us-west">
        <host name="ff33-hub-1.example.com" port="4444" count="5"/>
      </region>
    </version>
  </browser>

  <browser name="chrome" defaultVersion="42.0">
    <version number="42.0">
      <region name="us-east">
        <host name="ch42-hub-1.example.com" port="4444" count="10"/>
      </region>
    </version>
  </browser>
</qa:browsers>
```

GGR



## Autenticação HTTP

```
capabilities = {  
    "browserName": "firefox",  
    "version": "68.0",  
    "enableVNC": True,  
    "enableVideo": False  
}  
  
driver = webdriver.Remote(  
    command_executor="http://username:password@ggr-server.com:4444/wd/hub",  
    desired_capabilities=capabilities  
)
```



GGR



xoxo

{twitter,  
git(lab|hub),  
instagram,  
telegram  
} /dunossauro

