xvfb on ubuntu

reference

https://www.x.org/archive/X11R7.6/doc/man/man1/Xvfb.1.xhtml
http://elementalselenium.com/tips/38-headless

1. install chrome driver

(1) 아래와 같이 쉘스크립트 파일을 만들어 준다.

$ vi chrome_driver_install.sh

chrome_driver_install.sh

```
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!/usr/bin/env bash
# https://developers.supportbee.com/blog/setting-up-cucumber-to-run-with-Chrome-on-Linux/
# https://gist.github.com/curtismcmullan/7be1a8c1c841a9d8db2c
# http://stackoverflow.com/questions/10792403/how-do-i-get-chrome-working-with-selenium-using-php-webdriver
# http://stackoverflow.com/questions/26133486/how-to-specify-binary-path-for-remote-chromedriver-in-codeception
# http://stackoverflow.com/questions/40262682/how-to-run-selenium-3-x-with-chrome-driver-through-terminal
# http://askubuntu.com/questions/760085/how-do-you-install-google-chrome-on-ubuntu-16-04
# Remove existing downloads and binaries so we can start from scratch.
rm ~/google-chrome-stable_current_amd64.deb
rm ~/selenium-server-standalone-3.0.1.jar
rm ~/chromedriver_linux64.zip
sudo rm /usr/local/bin/chromedriver
sudo rm /usr/local/share/chromedriver
sudo rm /usr/local/bin/selenium-server-standalone-3.0.1.jar
sudo rm /usr/local/share/selenium-server-standalone-3.0.1.jar

# Install dependencies.
sudo apt-get update
sudo apt-get install -y openjdk-8-jre-headless xvfb libxi6 libgconf-2-4

# Install Chrome.
wget -N https://dl.google.com/linux/direct/google-chrome-stable_current_amd64.deb -P ~/
sudo dpkg -i --force-depends ~/google-chrome-stable_current_amd64.deb
sudo apt-get -f install -y
sudo dpkg -i --force-depends ~/google-chrome-stable_current_amd64.deb

# Install ChromeDriver.
```

```
wget -N http://chromedriver.storage.googleapis.com/2.27/chromedriver_linux64.zip -P ~/
unzip ~/chromedriver_linux64.zip -d ~/
rm ~/chromedriver_linux64.zip
sudo mv -f ~/chromedriver /usr/local/share/
sudo chmod +x /usr/local/share/chromedriver
sudo ln -s /usr/local/share/chromedriver /usr/local/bin/chromedriver

# Install Selenium.
wget -N http://selenium-release.storage.googleapis.com/3.0/selenium-server-standalone-3.0.1.jar -P ~/
sudo mv -f ~/selenium-server-standalone-3.0.1.jar /usr/local/share/
sudo chmod +x /usr/local/share/selenium-server-standalone-3.0.1.jar
sudo ln -s /usr/local/share/selenium-server-standalone-3.0.1.jar /usr/local/bin/selenium-server-standalone-3.0.1.jar
```

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(2) 쉘 스크립트 파일을 실행

```
$ source chrome_driver_install.sh
$ xvfb-run java -Dwebdriver.chrome.driver=/usr/local/bin/chromedriver -jar /usr/local/bin/selenium-server-standalone-3.0.1.jar -debug
$ sudo apt-get install libxss1 libappindicator1 libindicator7
$ sudo dpkg -i google-chrome*.deb
```

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2. install xvfb

아래와 같이 3개의 패키지를 설치합니다.

```
$ sudo apt-get install -f
$ sudo apt-get install xvfb
$ sudo apt-get install unzip
```

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3. setting chrome driver

크롬 드라이버를 다운받아 path를 설정해줍니다. 또한 pyvirtualdisplay와 selenium을 설치해줍니다.

```
$ wget -N http://chromedriver.storage.googleapis.com/2.26/chromedriver_linux64.zip
$ unzip chromedriver_linux64.zip
$ chmod +x chromedriver

$ sudo mv -f chromedriver /usr/local/share/chromedriver
$ sudo ln -s /usr/local/share/chromedriver /usr/local/bin/chromedriver
```

```
$ sudo ln -s /usr/local/share/chromedriver /usr/bin/chromedriver
$ sudo apt-get install python-pip
$ pip3 install pyvirtualdisplay selenium
```

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4. 테스트할 xvfb 파이썬 프로그램을 생성 및 실행

아래와 같이 xvfb.py 프로그램 파일을 생성합니다.

xvfb.py

```
from pyvirtualdisplay import Display
from selenium import webdriver

display = Display(visible=0, size=(800, 600))
display.start()
driver = webdriver.Chrome()
driver.get('http://christopher.su')
print(driver.title)

driver.quit()
```

생성한 프로그램을 실행합니다.

```
$ python3 xvfb.py
```