

Course: CS522 - Software Quality Assurance and Test Automation
Faculty: Prof. Henry Chang

Project: Online Jukebox + DOS attack using Selenium JUnit/WebDriver + Python Web Server

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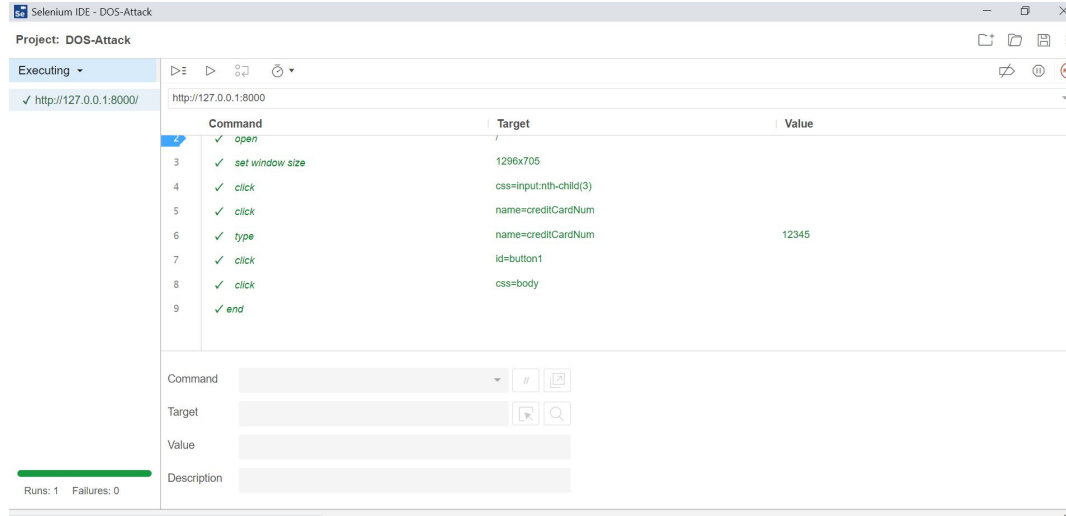
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1. Jukebox using Selenium IDE

- Jukebox code run in selenium IDE



Jukebox using Selenium IDE

- Jukebox code run in selenium IDE <http://127.0.0.1:8000> run successfully

The screenshot displays the Selenium IDE interface for a project named "DOS-Attack". The "Executing" tab is active, showing a list of commands that were successfully executed. The commands are as follows:

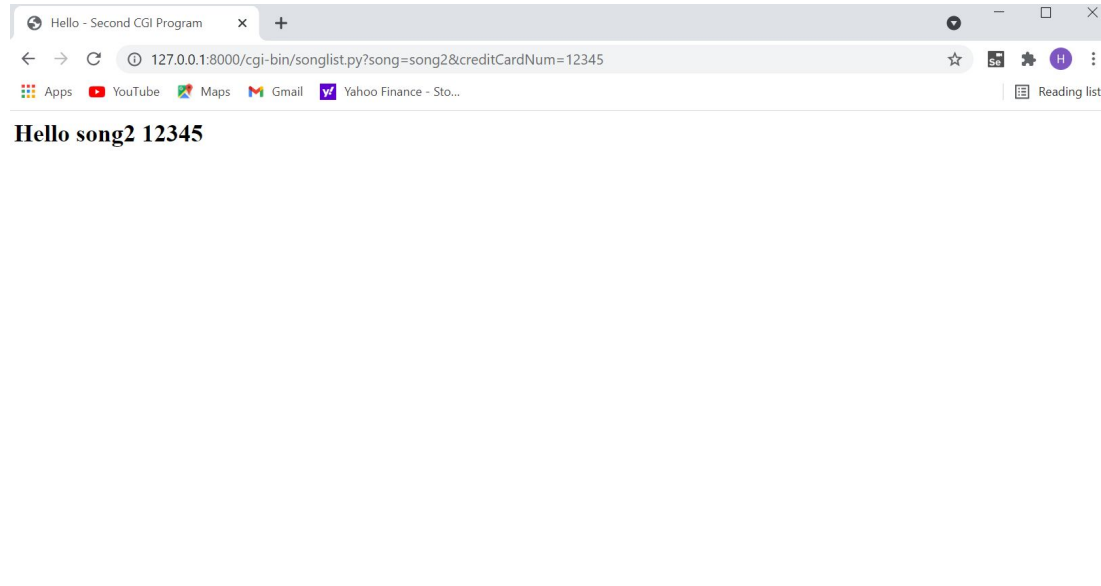
Command	Target	Value
1. ✓ times	10	
2. ✓ open	/	
3. ✓ set window size	1296x705	
4. ✓ click	css=input:nth-child(3)	
5. ✓ click	name=creditCardNum	

Below the command list, there are input fields for "Command", "Target", "Value", and "Description". At the bottom left, it indicates "Runs: 1 Failures: 0". The "Log" tab at the bottom shows a detailed log of the execution steps, including clicking on specific elements and typing values, all of which completed successfully. The final log entry states: "'http://127.0.0.1:8000/' completed successfully".



Jukebox using Selenium IDE

- Chrome browser after DOS attack run successfully in Selenium IDE



2. Jukebox Using Selenium webdriver

- Running the Selenium Webdriver in command line

```
root@haripriya-VirtualBox: /home/haripriya/Downloads
root@haripriya-VirtualBox: /home/haripriya/Downloads# java JukeboxSelenium
Starting ChromeDriver 96.0.4664.45 (76e4c1bb2ab4671b8beba3444e61c0f17584b2fc-refs/branch-heads/4664@{#947}) o
n port 54185
Only local connections are allowed.
Please see https://chromedriver.chromium.org/security-considerations for suggestions on keeping ChromeDriver
safe.
ChromeDriver was started successfully.
Dec 01, 2021 12:16:43 AM org.openqa.selenium.remote.ProtocolHandshake createSession
INFO: Detected dialect: W3C
Dec 01, 2021 12:16:43 AM org.openqa.selenium.devtools.CdpVersionFinder findNearestMatch
INFO: Found exact CDP implementation for version 96
Starting ChromeDriver 96.0.4664.45 (76e4c1bb2ab4671b8beba3444e61c0f17584b2fc-refs/branch-heads/4664@{#947}) o
n port 37889
Only local connections are allowed.
Please see https://chromedriver.chromium.org/security-considerations for suggestions on keeping ChromeDriver
safe.
ChromeDriver was started successfully.
Dec 01, 2021 12:16:49 AM org.openqa.selenium.remote.ProtocolHandshake createSession
INFO: Detected dialect: W3C
Dec 01, 2021 12:16:49 AM org.openqa.selenium.devtools.CdpVersionFinder findNearestMatch
INFO: Found exact CDP implementation for version 96
Starting ChromeDriver 96.0.4664.45 (76e4c1bb2ab4671b8beba3444e61c0f17584b2fc-refs/branch-heads/4664@{#947}) o
n port 42881
Only local connections are allowed.
Please see https://chromedriver.chromium.org/security-considerations for suggestions on keeping ChromeDriver
safe.
ChromeDriver was started successfully.
Dec 01, 2021 12:16:55 AM org.openqa.selenium.remote.ProtocolHandshake createSession
INFO: Detected dialect: W3C
Dec 01, 2021 12:16:55 AM org.openqa.selenium.devtools.CdpVersionFinder findNearestMatch
INFO: Found exact CDP implementation for version 96
Starting ChromeDriver 96.0.4664.45 (76e4c1bb2ab4671b8beba3444e61c0f17584b2fc-refs/branch-heads/4664@{#947}) o
n port 55591
Only local connections are allowed.
Please see https://chromedriver.chromium.org/security-considerations for suggestions on keeping ChromeDriver
```



Jukebox Using Selenium webdriver

- Running the Selenium Webdriver in command line python server

```
haripriya@haripriya-VirtualBox: ~/Desktop/html
haripriya@haripriya-VirtualBox:~/Desktop/html$ python3 -m http.server 8000 --bind 127.0.0.1 --cgi
Serving HTTP on 127.0.0.1 port 8000 (http://127.0.0.1:8000/) ...
127.0.0.1 - - [01/Dec/2021 00:16:43] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [01/Dec/2021 00:16:44] "GET /favicon.ico HTTP/1.1" 404 -
127.0.0.1 - - [01/Dec/2021 00:16:44] "GET /cgi-bin/songlist.py?song=song3&creditCardNum=123456789 HTTP/1.1" 200 -
127.0.0.1 - - [01/Dec/2021 00:16:45] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [01/Dec/2021 00:16:49] "code 404, message File not found"
127.0.0.1 - - [01/Dec/2021 00:16:50] "GET /favicon.ico HTTP/1.1" 404 -
127.0.0.1 - - [01/Dec/2021 00:16:50] "GET /cgi-bin/songlist.py?song=song3&creditCardNum=123456789 HTTP/1.1" 200 -
127.0.0.1 - - [01/Dec/2021 00:16:55] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [01/Dec/2021 00:16:55] "code 404, message File not found"
127.0.0.1 - - [01/Dec/2021 00:16:56] "GET /favicon.ico HTTP/1.1" 404 -
127.0.0.1 - - [01/Dec/2021 00:16:56] "GET /cgi-bin/songlist.py?song=song3&creditCardNum=123456789 HTTP/1.1" 200 -
127.0.0.1 - - [01/Dec/2021 00:17:00] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [01/Dec/2021 00:17:01] "code 404, message File not found"
127.0.0.1 - - [01/Dec/2021 00:17:01] "GET /favicon.ico HTTP/1.1" 404 -
127.0.0.1 - - [01/Dec/2021 00:17:02] "GET /cgi-bin/songlist.py?song=song3&creditCardNum=123456789 HTTP/1.1" 200 -
127.0.0.1 - - [01/Dec/2021 00:17:06] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [01/Dec/2021 00:17:07] "code 404, message File not found"
127.0.0.1 - - [01/Dec/2021 00:17:07] "GET /favicon.ico HTTP/1.1" 404 -
127.0.0.1 - - [01/Dec/2021 00:17:07] "GET /cgi-bin/songlist.py?song=song3&creditCardNum=123456789 HTTP/1.1" 200 -
127.0.0.1 - - [01/Dec/2021 00:17:11] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [01/Dec/2021 00:17:12] "code 404, message File not found"
127.0.0.1 - - [01/Dec/2021 00:17:12] "GET /favicon.ico HTTP/1.1" 404 -
127.0.0.1 - - [01/Dec/2021 00:17:13] "GET /cgi-bin/songlist.py?song=song3&creditCardNum=123456789 HTTP/1.1" 200 -
127.0.0.1 - - [01/Dec/2021 00:17:17] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [01/Dec/2021 00:17:18] "code 404, message File not found"
127.0.0.1 - - [01/Dec/2021 00:17:18] "GET /favicon.ico HTTP/1.1" 404 -
127.0.0.1 - - [01/Dec/2021 00:17:18] "GET /cgi-bin/songlist.py?song=song3&creditCardNum=123456789 HTTP/1.1" 200 -
127.0.0.1 - - [01/Dec/2021 00:17:22] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [01/Dec/2021 00:17:23] "code 404, message File not found"
127.0.0.1 - - [01/Dec/2021 00:17:23] "GET /favicon.ico HTTP/1.1" 404 -
127.0.0.1 - - [01/Dec/2021 00:17:24] "GET /cgi-bin/songlist.py?song=song3&creditCardNum=123456789 HTTP/1.1" 200 -
127.0.0.1 - - [01/Dec/2021 00:17:28] "GET / HTTP/1.1" 200 -
```



Jukebox Using Selenium webdriver

- Running the Selenium Webdriver in command line mysql table after DOS attack

[illegible]

3. Jukebox Using Selenium Junit

- Running the Selenium Junit in command line mysql table after DOS attack

```
haripriya@haripriya-VirtualBox: ~/Desktop/... x haripriya@haripriya-VirtualBox: ~/Download... x haripriya@haripriya-VirtualBox: ~/Download... x
symbol: class ChromeOptions
location: class Jukeboxselenium
2 errors
haripriya@haripriya-VirtualBox:~/Downloads/seleniumJukebox$ javac -cp ".:~/home/haripriya/Downloads/seleniumJukebox/selenium-server-standalone-3.141.59.jar:/home/haripriya/Downloads/seleniumJukebox/junit-4.11.jar:/home/haripriya/Downloads/seleniumJukebox/hamcrest-core-1.3.jar" -d . Jukeboxselenium.java
haripriya@haripriya-VirtualBox:~/Downloads/seleniumJukebox$ crontab -e
No modification made
haripriya@haripriya-VirtualBox:~/Downloads/seleniumJukebox$ javac -cp ".:~/home/haripriya/Downloads/seleniumJukebox/selenium-server-standalone-3.141.59.jar:/home/haripriya/Downloads/seleniumJukebox/junit-4.11.jar:/home/haripriya/Downloads/seleniumJukebox/hamcrest-core-1.3.jar" -d . Jukeboxselenium.java
haripriya@haripriya-VirtualBox:~/Downloads/seleniumJukebox$ java -cp ".:~/home/haripriya/Downloads/seleniumJukebox/selenium-server-standalone-3.141.59.jar:/home/haripriya/Downloads/seleniumJukebox/junit-4.11.jar:/home/haripriya/Downloads/seleniumJukebox/hamcrest-core-1.3.jar" org.junit.runner.JUnitCore Jukeboxselenium
JUnit version 4.11
12 Dec 04, 2021 7:50:20 PM org.openqa.selenium.remote.ProtocolHandshake createSession
INFO: Detected dialect: W3C
Hello song3 12345678

Time: 4.468

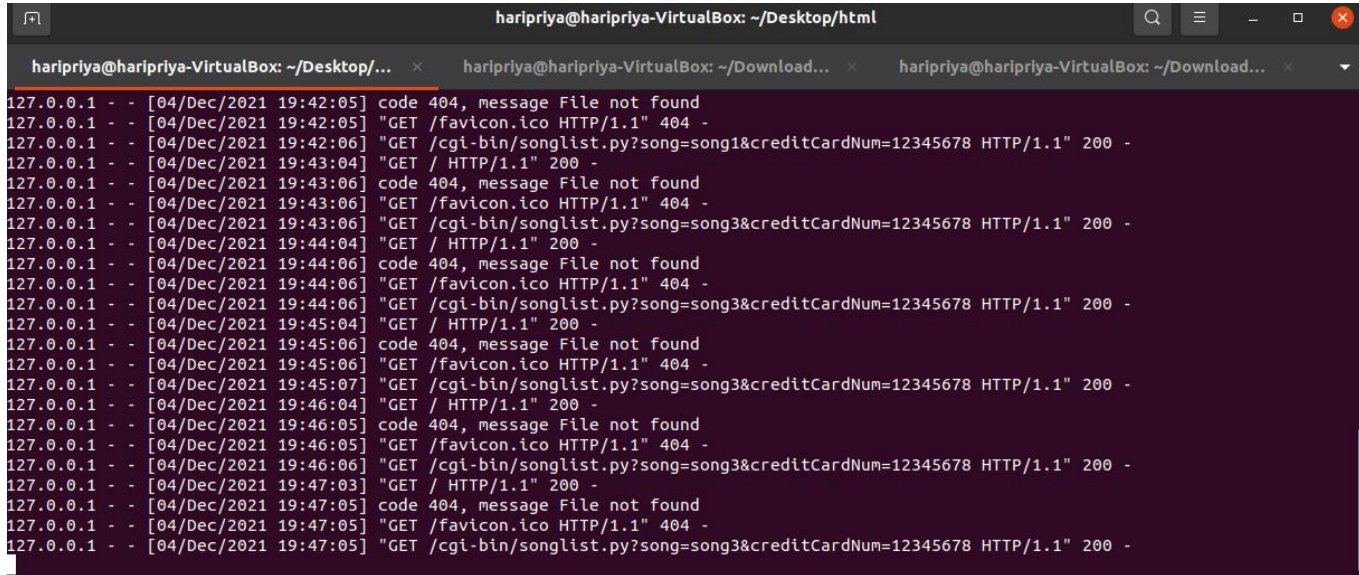
OK (1 test)

haripriya@haripriya-VirtualBox:~/Downloads/seleniumJukebox$
```



Jukebox Using Selenium Junit

- Running the Selenium Junit in command python server



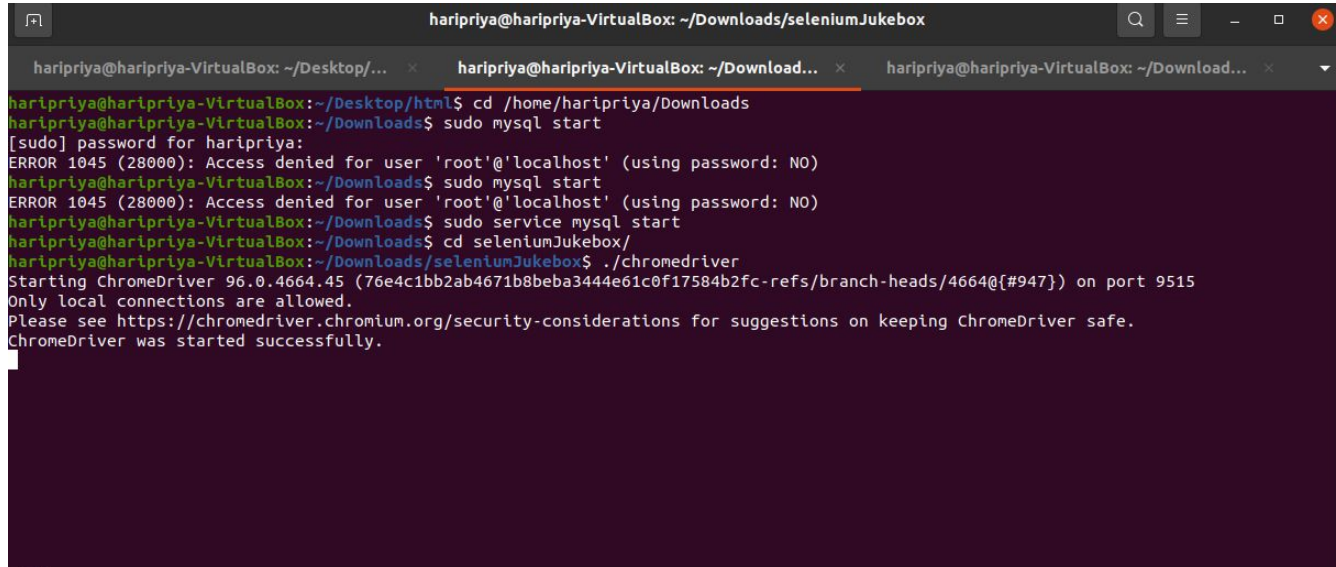
A screenshot of a terminal window titled "haripriya@haripriya-VirtualBox: ~/Desktop/html". The terminal displays a series of HTTP requests and responses. The requests are from 127.0.0.1 and include GET requests for /favicon.ico and /cgi-bin/songlist.py with various query parameters. The responses are 404 (File not found) or 200 (OK). The terminal text is as follows:

```
127.0.0.1 - - [04/Dec/2021 19:42:05] code 404, message File not found
127.0.0.1 - - [04/Dec/2021 19:42:05] "GET /favicon.ico HTTP/1.1" 404 -
127.0.0.1 - - [04/Dec/2021 19:42:06] "GET /cgi-bin/songlist.py?song=song1&creditCardNum=12345678 HTTP/1.1" 200 -
127.0.0.1 - - [04/Dec/2021 19:43:04] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [04/Dec/2021 19:43:06] code 404, message File not found
127.0.0.1 - - [04/Dec/2021 19:43:06] "GET /favicon.ico HTTP/1.1" 404 -
127.0.0.1 - - [04/Dec/2021 19:43:06] "GET /cgi-bin/songlist.py?song=song3&creditCardNum=12345678 HTTP/1.1" 200 -
127.0.0.1 - - [04/Dec/2021 19:44:04] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [04/Dec/2021 19:44:06] code 404, message File not found
127.0.0.1 - - [04/Dec/2021 19:44:06] "GET /favicon.ico HTTP/1.1" 404 -
127.0.0.1 - - [04/Dec/2021 19:44:06] "GET /cgi-bin/songlist.py?song=song3&creditCardNum=12345678 HTTP/1.1" 200 -
127.0.0.1 - - [04/Dec/2021 19:45:04] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [04/Dec/2021 19:45:06] code 404, message File not found
127.0.0.1 - - [04/Dec/2021 19:45:06] "GET /favicon.ico HTTP/1.1" 404 -
127.0.0.1 - - [04/Dec/2021 19:45:07] "GET /cgi-bin/songlist.py?song=song3&creditCardNum=12345678 HTTP/1.1" 200 -
127.0.0.1 - - [04/Dec/2021 19:46:04] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [04/Dec/2021 19:46:05] code 404, message File not found
127.0.0.1 - - [04/Dec/2021 19:46:05] "GET /favicon.ico HTTP/1.1" 404 -
127.0.0.1 - - [04/Dec/2021 19:46:06] "GET /cgi-bin/songlist.py?song=song3&creditCardNum=12345678 HTTP/1.1" 200 -
127.0.0.1 - - [04/Dec/2021 19:47:03] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [04/Dec/2021 19:47:05] code 404, message File not found
127.0.0.1 - - [04/Dec/2021 19:47:05] "GET /favicon.ico HTTP/1.1" 404 -
127.0.0.1 - - [04/Dec/2021 19:47:05] "GET /cgi-bin/songlist.py?song=song3&creditCardNum=12345678 HTTP/1.1" 200 -
```



Jukebox Using Selenium Junit

- Before running the crontab, start chrome driver successfully.

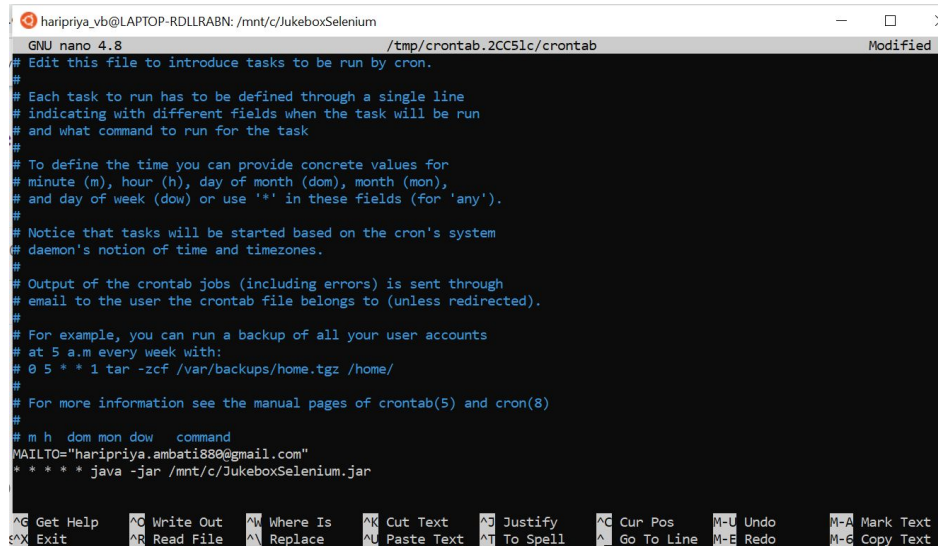


```
haripriya@haripriya-VirtualBox: ~/Downloads/seleniumJukebox
haripriya@haripriya-VirtualBox: ~/Desktop/htn1$ cd /home/haripriya/Downloads
haripriya@haripriya-VirtualBox:~/Downloads$ sudo mysql start
[sudo] password for haripriya:
ERROR 1045 (28000): Access denied for user 'root'@'localhost' (using password: NO)
haripriya@haripriya-VirtualBox:~/Downloads$ sudo mysql start
ERROR 1045 (28000): Access denied for user 'root'@'localhost' (using password: NO)
haripriya@haripriya-VirtualBox:~/Downloads$ sudo service mysql start
haripriya@haripriya-VirtualBox:~/Downloads$ cd seleniumJukebox/
haripriya@haripriya-VirtualBox:~/Downloads/seleniumJukebox$ ./chromedriver
Starting ChromeDriver 96.0.4664.45 (76e4c1bb2ab4671b8beba3444e61c0f17584b2fc-refs/branch-heads/4664@{#947}) on port 9515
Only local connections are allowed.
Please see https://chromedriver.chromium.org/security-considerations for suggestions on keeping ChromeDriver safe.
ChromeDriver was started successfully.
```



4. Adding Cron Job

- Create cron job.
- Set to run every 1 min

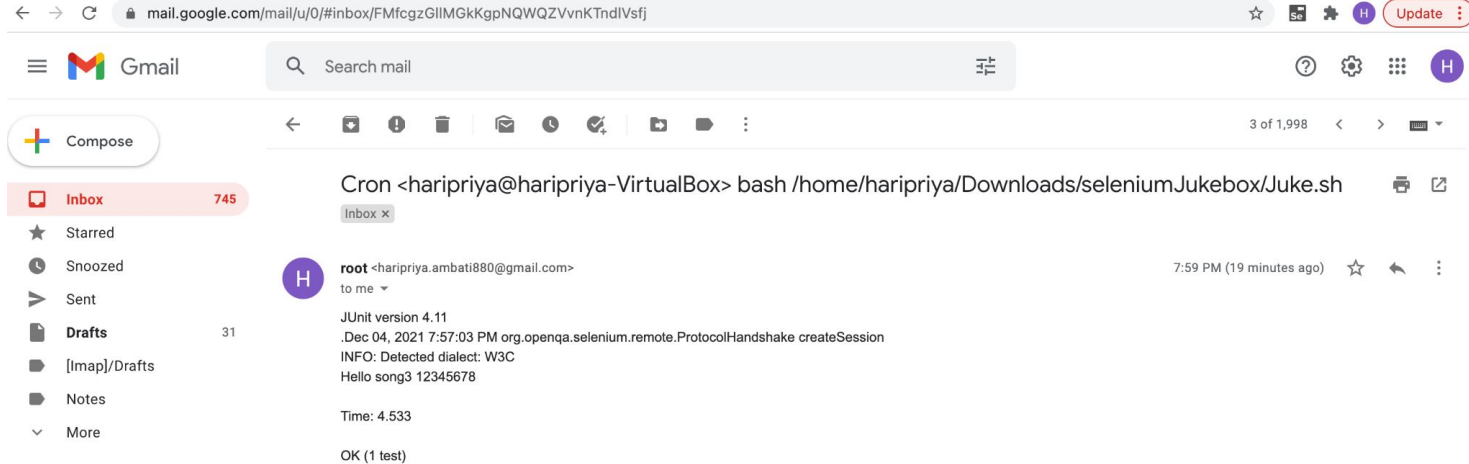


```
hariPriya_vb@LAPTOP-RDLLRABN: /mnt/c/JukeboxSelenium
GNU nano 4.8 /tmp/crontab.2CC51c/crontab Modified
# Edit this file to introduce tasks to be run by cron.
#
# Each task to run has to be defined through a single line
# indicating with different fields when the task will be run
# and what command to run for the task
#
# To define the time you can provide concrete values for
# minute (m), hour (h), day of month (dom), month (mon),
# and day of week (dow) or use '*' in these fields (for 'any').
#
# Notice that tasks will be started based on the cron's system
# daemon's notion of time and timezones.
#
# Output of the crontab jobs (including errors) is sent through
# email to the user the crontab file belongs to (unless redirected).
#
# For example, you can run a backup of all your user accounts
# at 5 a.m every week with:
# 0 5 * * 1 tar -zcf /var/backups/home.tgz /home/
#
# For more information see the manual pages of crontab(5) and cron(8)
#
# m h dom mon dow   command
MAILTO="hariPriya.ambati88@gmail.com"
* * * * java -jar /mnt/c/JukeboxSelenium.jar

^G Get Help  ^O Write Out  ^W Where Is  ^K Cut Text  ^J Justify   ^C Cur Pos   M-U Undo    M-A Mark Text
^X Exit      ^R Read File  ^L Replace   ^U Paste Text ^T To Spell  ^_ Go To Line M-E Redo    M-E Copy Text
```

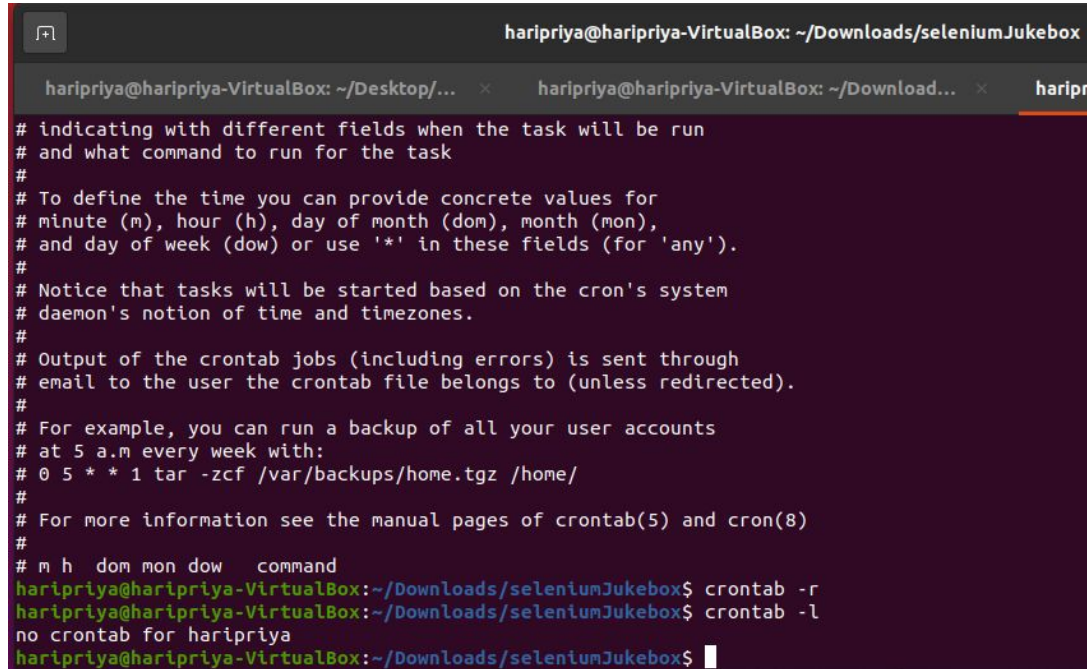
5. Email Notification after Cron Job

- Email is received



6. Removing Cron Job

- Using command `crontab -l`, we check for currently running cron tab and remove using `crontab -r` command.

A terminal window titled 'haripriya@haripriya-VirtualBox: ~/Downloads/seleniumJukebox' with three tabs. The first tab is active and shows the content of the crontab file. The second and third tabs are partially visible. The terminal output shows the crontab file's header comments, an example backup job, and the successful execution of the 'crontab -r' command to remove the job.

```
haripriya@haripriya-VirtualBox: ~/Downloads/seleniumJukebox
haripriya@haripriya-VirtualBox: ~/Desktop/... x haripriya@haripriya-VirtualBox: ~/Download... x haripr
# indicating with different fields when the task will be run
# and what command to run for the task
#
# To define the time you can provide concrete values for
# minute (m), hour (h), day of month (dom), month (mon),
# and day of week (dow) or use '*' in these fields (for 'any').
#
# Notice that tasks will be started based on the cron's system
# daemon's notion of time and timezones.
#
# Output of the crontab jobs (including errors) is sent through
# email to the user the crontab file belongs to (unless redirected).
#
# For example, you can run a backup of all your user accounts
# at 5 a.m every week with:
# 0 5 * * 1 tar -zcf /var/backups/home.tgz /home/
#
# For more information see the manual pages of crontab(5) and cron(8)
#
# m h dom mon dow  command
haripriya@haripriya-VirtualBox:~/Downloads/seleniumJukebox$ crontab -r
haripriya@haripriya-VirtualBox:~/Downloads/seleniumJukebox$ crontab -l
no crontab for haripriya
haripriya@haripriya-VirtualBox:~/Downloads/seleniumJukebox$
```

References

- https://npu85.npu.edu/~henry/npu/classes/shell_script/backup/slide/ssh_setup.html
- https://npu85.npu.edu/~henry/npu/classes/qa/cron_job/slide/cron.html

Google slides URL :

https://docs.google.com/presentation/d/15DK0e9a0oszSGYovUW8BQ-_jK52zgM8rrEXT_4QLR1Y/edit?usp=sharing

