

Secure Programming (CSE 5382)

Programming assignment 3

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Web and Static Analysis Tool (flawfinder)

By

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Development Specifications:

1. PHP
2. HTML
3. HTTP protocols (get, post)
4. Bash
5. Apache2
6. MYSQL
7. Flawfinder
8. Firefox web browser
9. Ubuntu

What our tool does:

1. It registers the user with information like username, password, Fullname, email etc.
2. It logs the authenticated user.
3. It takes the input code (C/ C++) and on click of Post button, it displays analysis result(bug report)

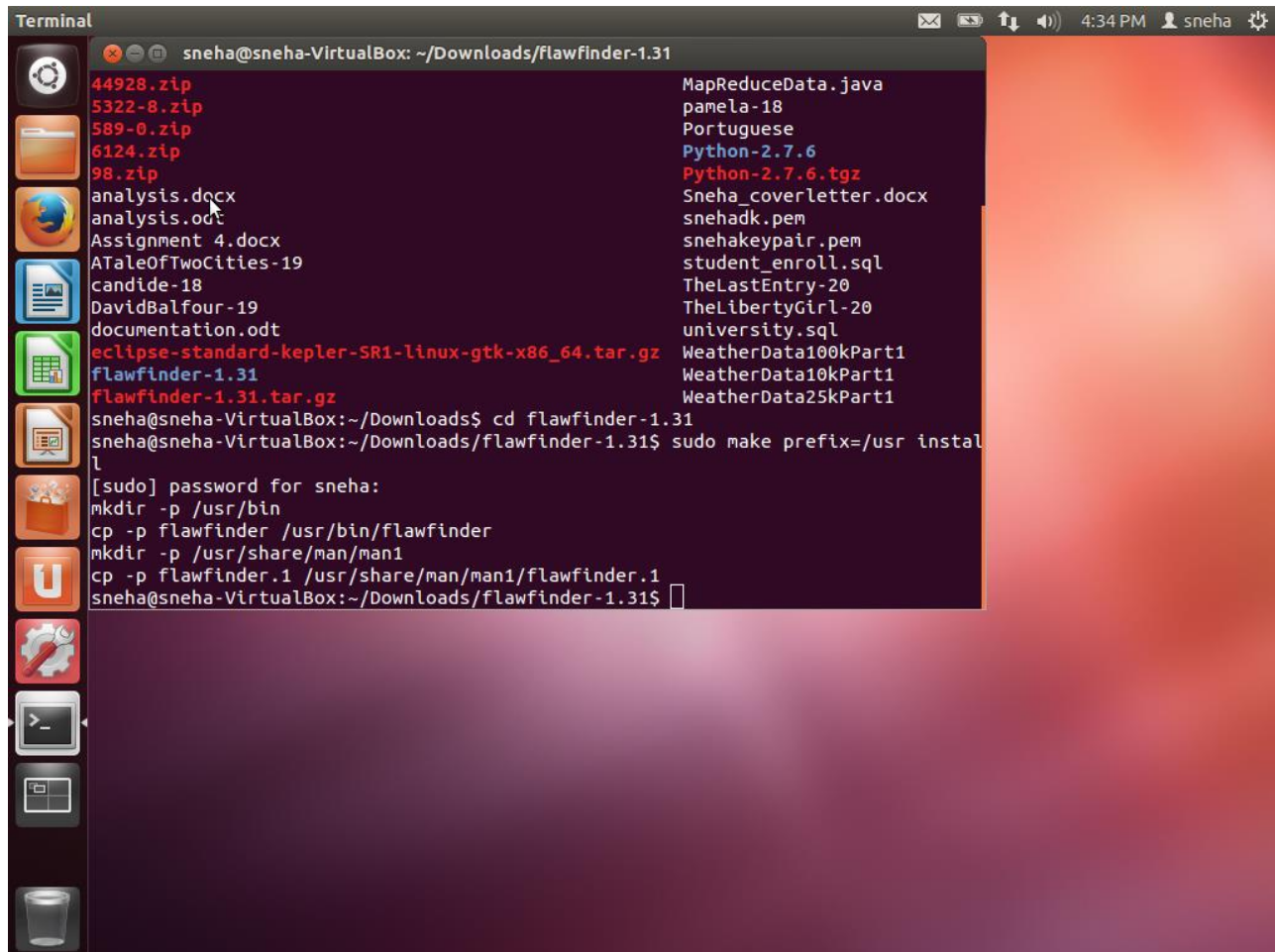
Steps for execution:

1. Install PHP, Apache, Mysql:

Refer following link for installation

<http://www.allaboutlinux.eu/how-to-run-php-on-ubuntu/>

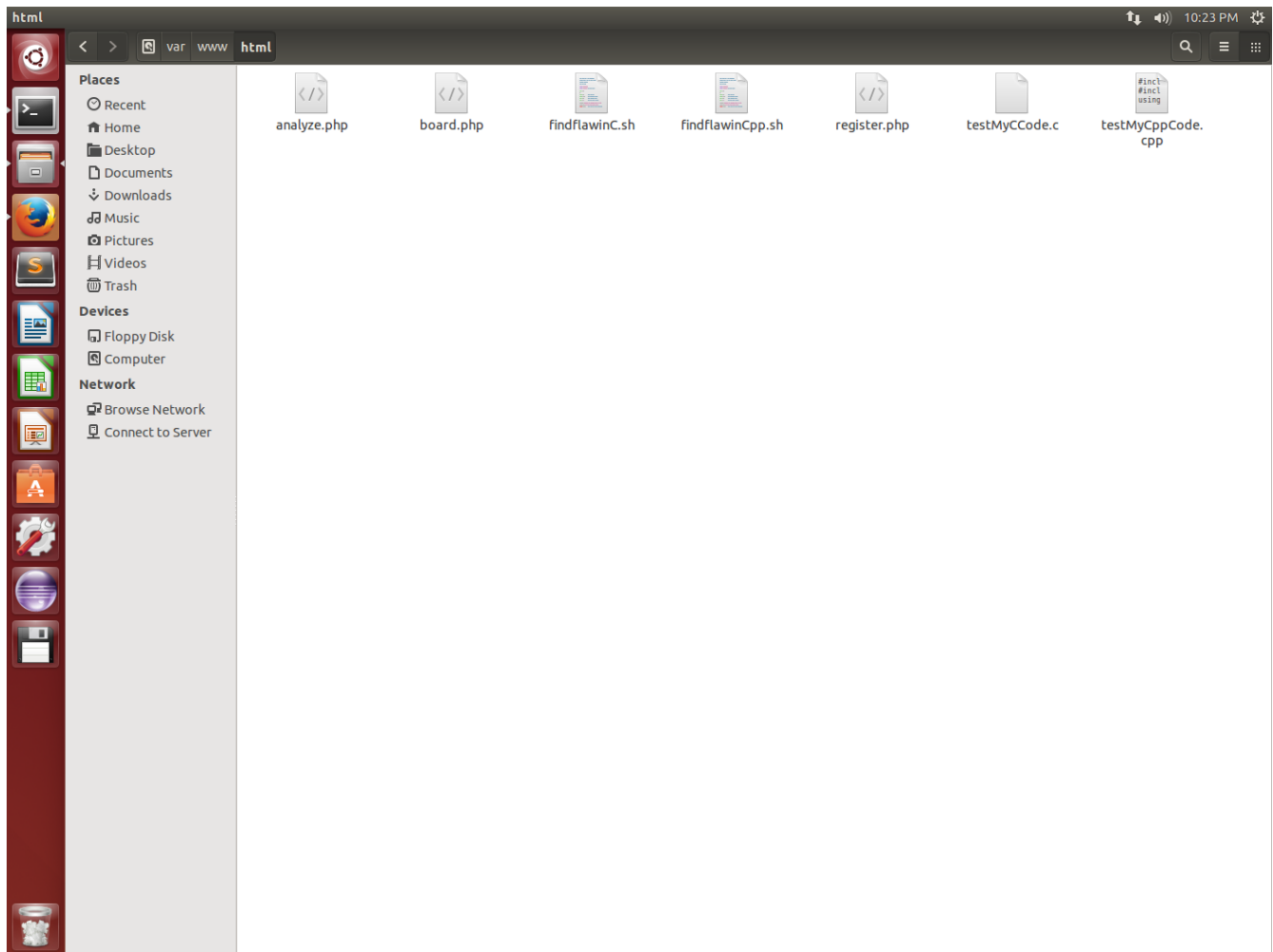
2. Install flawfinder



```
Terminal
sneha@sneha-VirtualBox: ~/Downloads/flawfinder-1.31

44928.zip
5322-8.zip
589-0.zip
6124.zip
98.zip
analysis.docx
analysis.odt
Assignment 4.docx
ATaleOfTwoCities-19
candide-18
DavidBalfour-19
documentation.odt
eclipse-standard-kepler-SR1-linux-gtk-x86_64.tar.gz
flawfinder-1.31
flawfinder-1.31.tar.gz
sneha@sneha-VirtualBox:~/Downloads$ cd flawfinder-1.31
sneha@sneha-VirtualBox:~/Downloads/flawfinder-1.31$ sudo make prefix=/usr install
[sudo] password for sneha:
mkdir -p /usr/bin
cp -p flawfinder /usr/bin/flawfinder
mkdir -p /usr/share/man/man1
cp -p flawfinder.1 /usr/share/man/man1/flawfinder.1
sneha@sneha-VirtualBox:~/Downloads/flawfinder-1.31$
```

3. Copy following files in the same folder



4. Change the mode of C and C++ files, so that we can read, write and execute the files.

Commands: `sudo chmod 777 /var/www/html/testMyCCode.c`
`sudo chmod 777 /var/www/html/testMyCppCode.cpp`

5. Create database

```
sneha@sneha-VirtualBox: ~
sneha@sneha-VirtualBox:~/Downloads$ cd ..
sneha@sneha-VirtualBox:~$ mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 36
Server version: 5.5.35-0ubuntu0.12.04.2 (Ubuntu)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

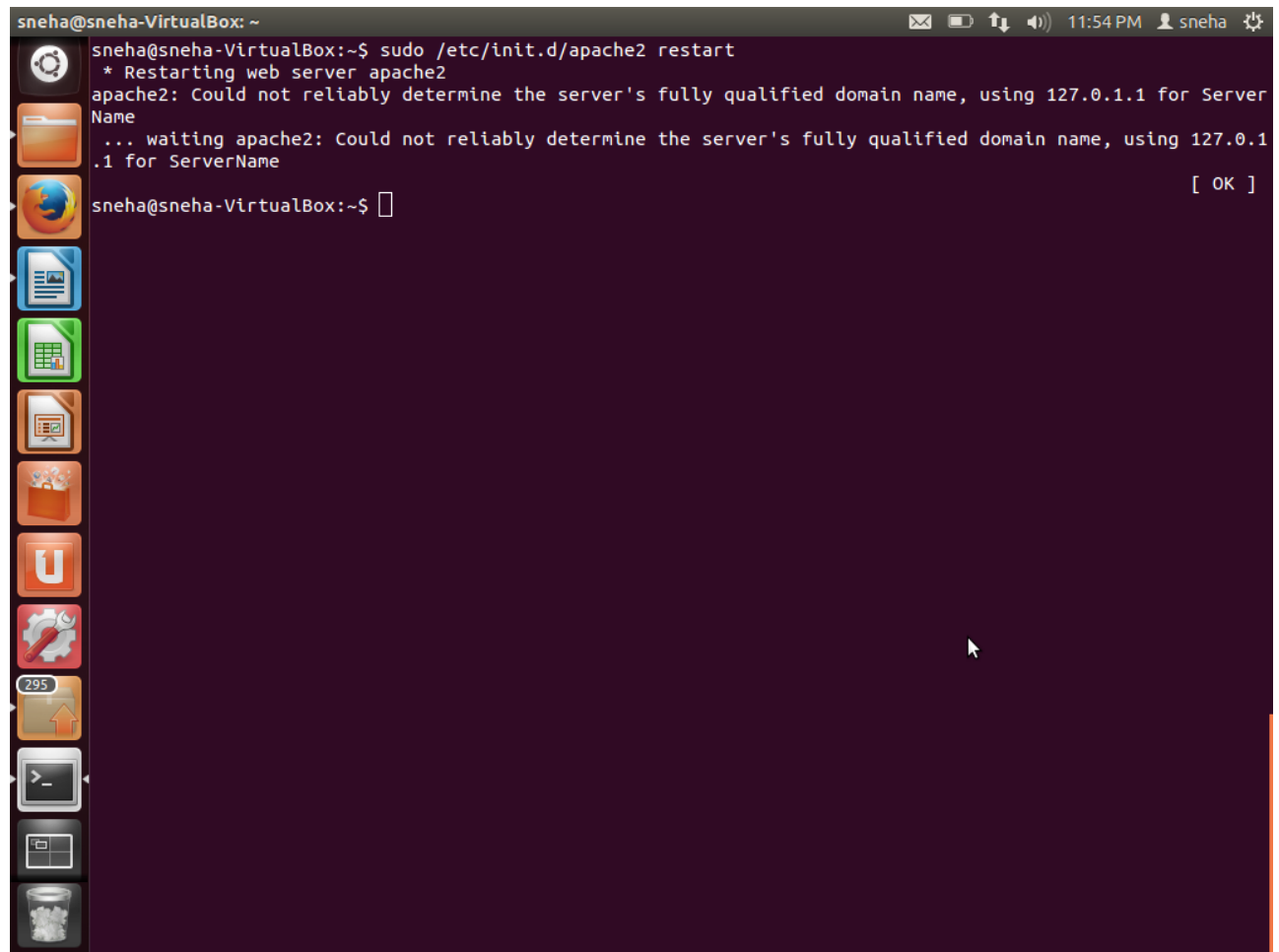
mysql> create database statictool;
Query OK, 1 row affected (0.06 sec)

mysql> create table statictool.secureUsers (
->   username   varchar(10) primary key,
->   password   varchar(32) not null,
->   fullname   varchar(45) not null,
->   email      varchar(45) unique not null
-> );
Query OK, 0 rows affected (0.07 sec)

mysql> desc statictool.secureUsers;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| username | varchar(10) | NO | PRI | NULL | |
| password | varchar(32) | NO | | NULL | |
| fullname | varchar(45) | NO | | NULL | |
| email | varchar(45) | NO | UNI | NULL | |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> 
```

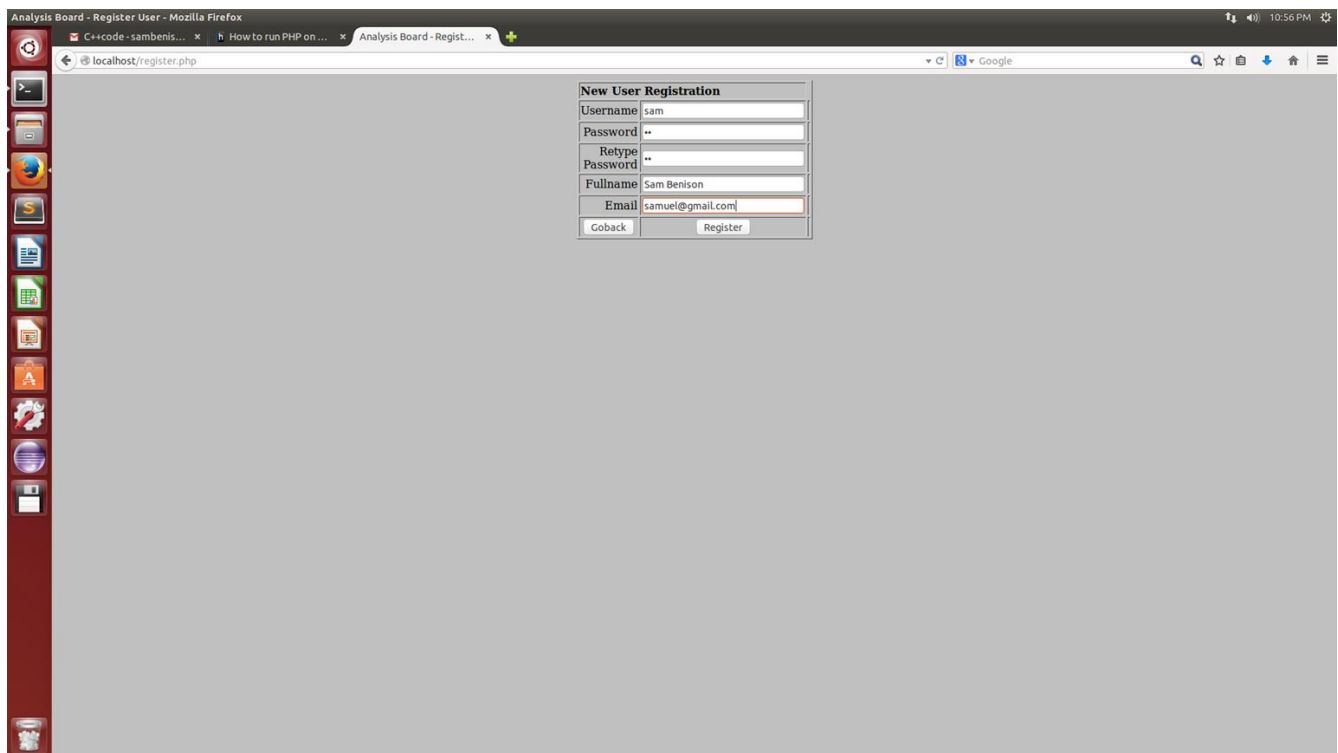
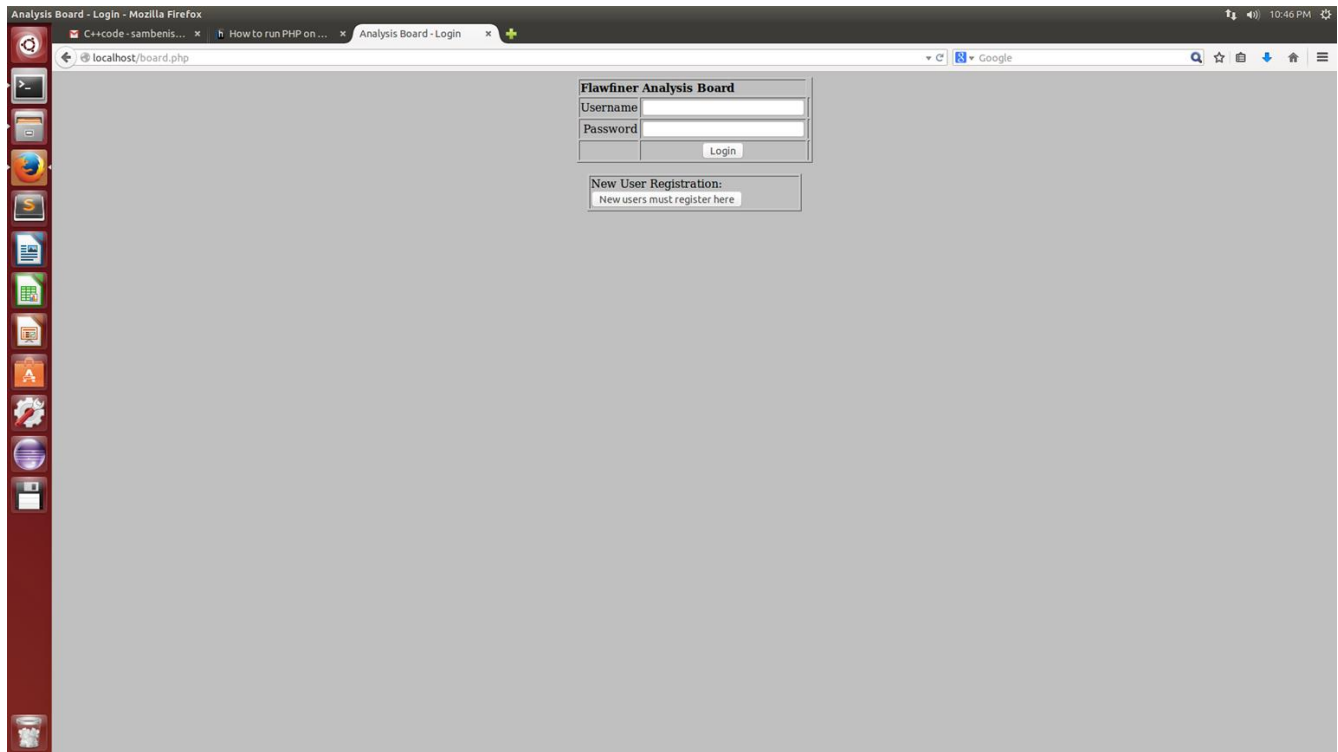
6. Restart Apache

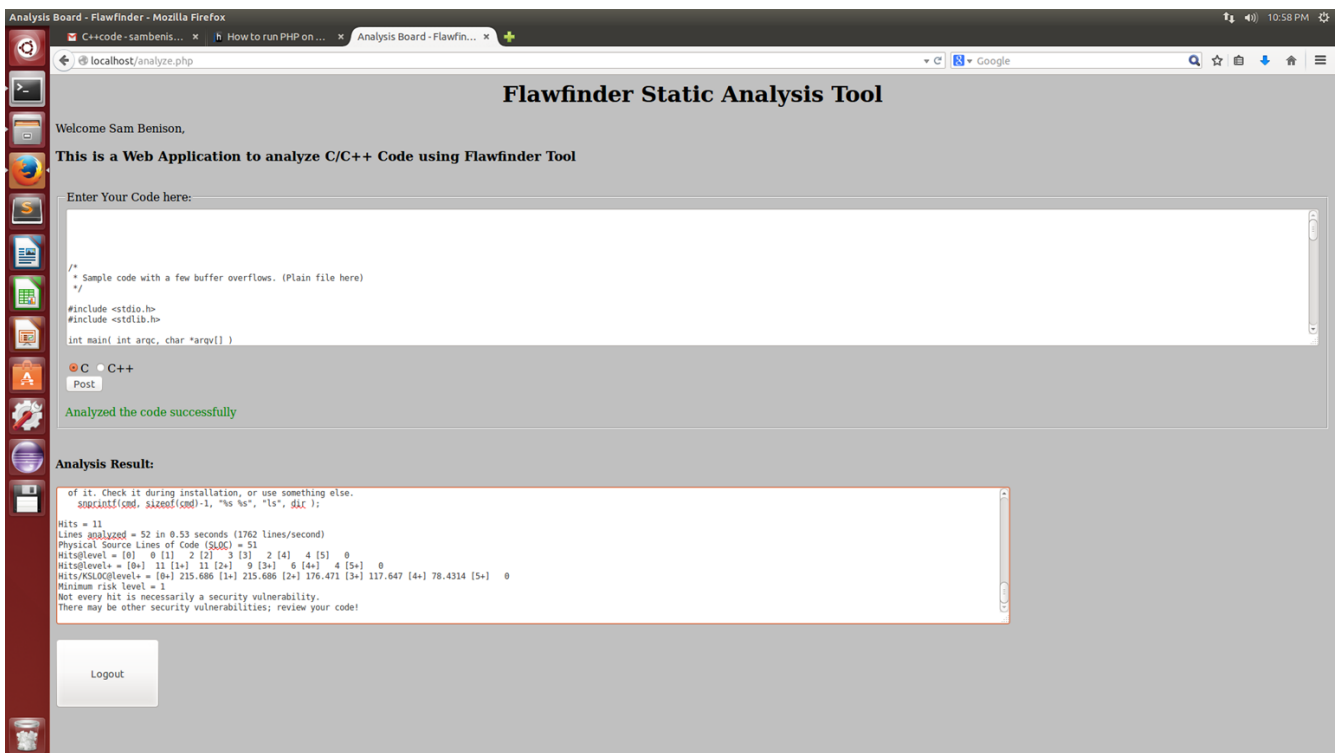
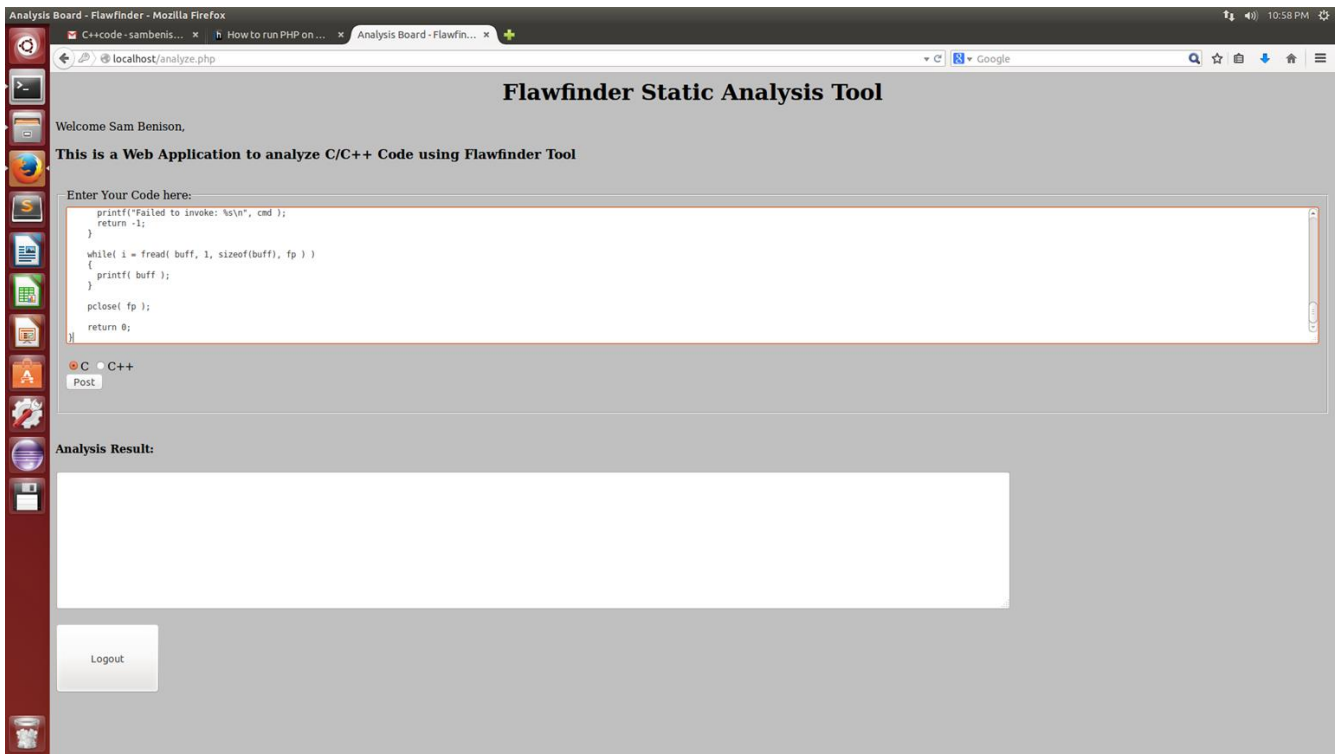


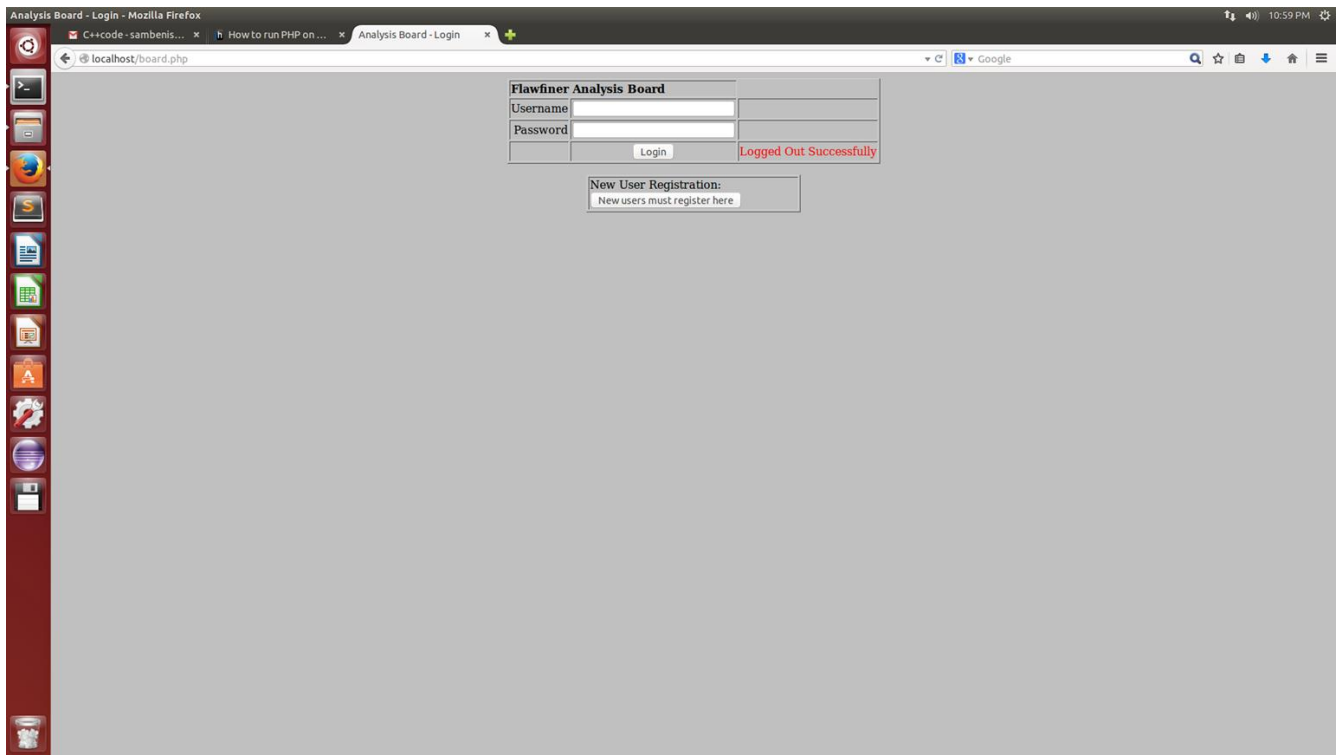
The image shows a terminal window titled 'sneha@sneha-VirtualBox: ~'. The user has executed the command 'sudo /etc/init.d/apache2 restart'. The output shows the service restarting with a warning about the domain name. The terminal has a dark purple background and a sidebar with application icons on the left.

```
sneha@sneha-VirtualBox: ~  
sneha@sneha-VirtualBox:~$ sudo /etc/init.d/apache2 restart  
* Restarting web server apache2  
apache2: Could not reliably determine the server's fully qualified domain name, using 127.0.1.1 for Server  
Name  
... waiting apache2: Could not reliably determine the server's fully qualified domain name, using 127.0.1  
.1 for ServerName  
[ OK ]  
sneha@sneha-VirtualBox:~$
```

7. On browser, localhost/board.php
You will see following result







References:

<http://www.allaboutlinux.eu/how-to-run-php-on-ubuntu/>

<http://www.dwheeler.com/flipfinder/>

<http://sourceforge.net/projects/flipfinder/>