IE4040: Information Assurance and Auditing

4th Year – 1st Semester

Mini Project - Report

Registration No: IT17102056

Name : Shehan D.S

Batch : CSNE – Weekend

Declaration

I declare that this is my own work and this report does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any other university or Institute of higher learning and to the best of our knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

Name	Student ID
Shehan D.S.	IT17102056

Abstract

In the present times, as a result of development in information technology the web applications are arise. Nowadays web applications or websites are become very popular in the world. Most of the organizations have their own web application. Even little companies also have their own web application. These organizations stored their valuable data in their web application. To protect their data or information they need a mechanism to check or analyze the security of their web application. As a solution for this matter Audits are arise. Security audit means basically scan the web application for vulnerabilities. For organizations identifying the weakness of their web applications is very important. By conducting a security audit, they can identify their web application's weakness and they can cure their vulnerabilities and maintain a better secured web application. There are so many freely and commercial web application testing tools are available to conduct these security audits. This report is about " www.sliit.lk" website's security audit using a tool called "Nessus".

Table of Contents

1. Introduction

Nowadays web applications are popular title in the world. Everyone in the world are known about web applications and most of them have used these web applications. All the business organizations are using these web applications to do their business. For these organizations very important to keep their website up and running and to give well secured user experience. To keep websites in a well secured way we have to perform websites monitoring and conduct regular security audits.

Actually, website security audit means, looking for the vulnerabilities of the website. That means we do a scan using a website testing tool and that tool gives us a report about all the weakness in our website and some tools also gives us solutions for these issues in our website.

Main purpose of the website audit is to find issues or problems in our website. Broken tags, broken links are some examples for these weaknesses that we are going to identify using these audits. Also website audit ensure the data protection of our website.

There are so many audits that we can perform to our website to analyze our website. They are,

- Backlink audit.
- Adavanced client audit.
- Search Engine Optimization audit.(SEO)
- Valnerability and security scans.

But when we talk about web application audit, main concern is the security audit. That is because these web applications are in the open network. That means in the internet. So, for these web applications security in the main problem. So that security audits are very important to web applications.

2. Web application testing tools

1. Abbey Scan.
    - Owner is the “MisterScanner” company.
    - This is free and open source tool.

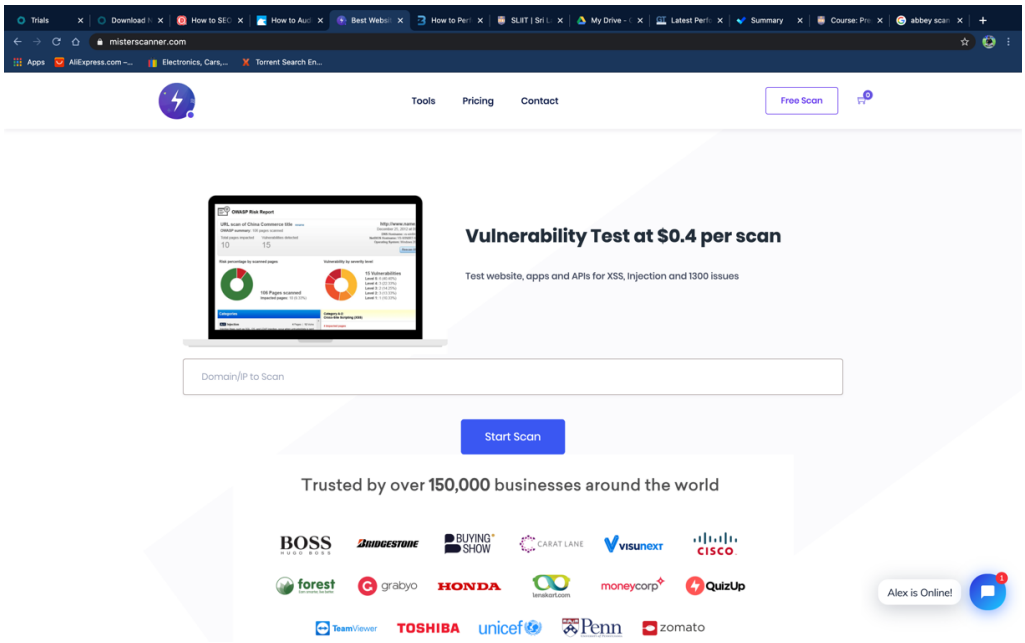

Fig: 1.1 : Abbey Scan tool interface.

2. Arachni.
    - Owner is “ Arachini” company.
    - Free for most use cases.

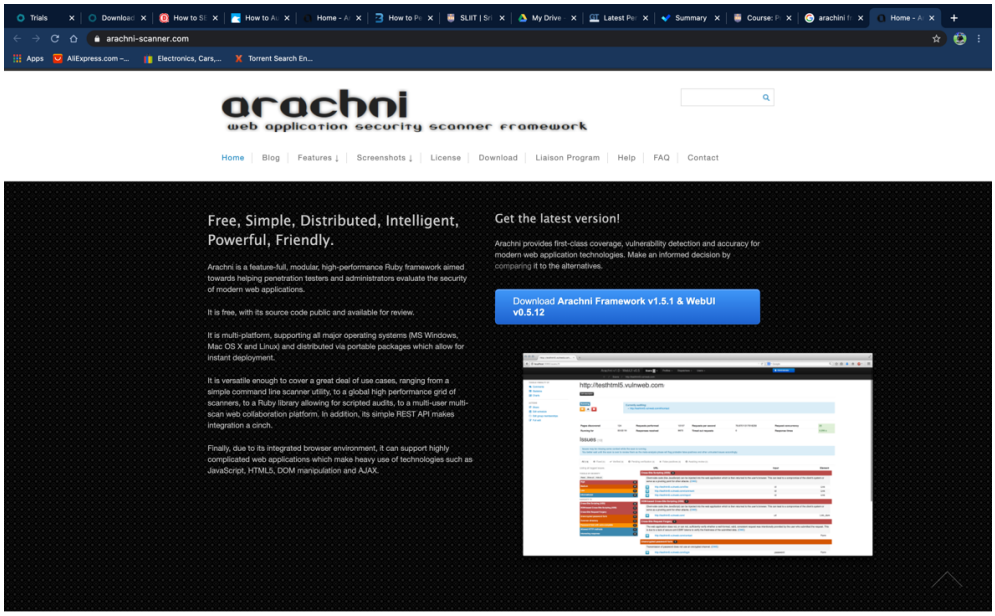

Fig: 1.2 : arachini tool website.

3. Detectify
    - Owner is the “ Detectify” company.
    - This is a paid tool.

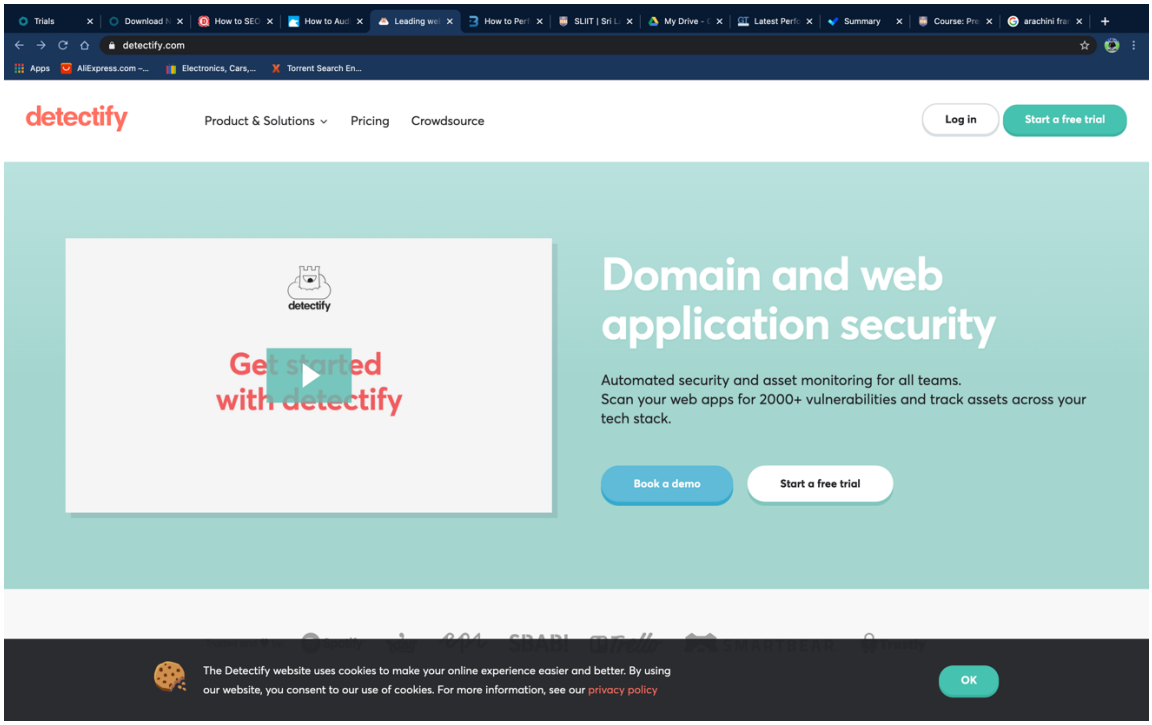

Fig 1.3: Detecify company website.

4. W3af.
    - Owner is the “ w3af.org”.

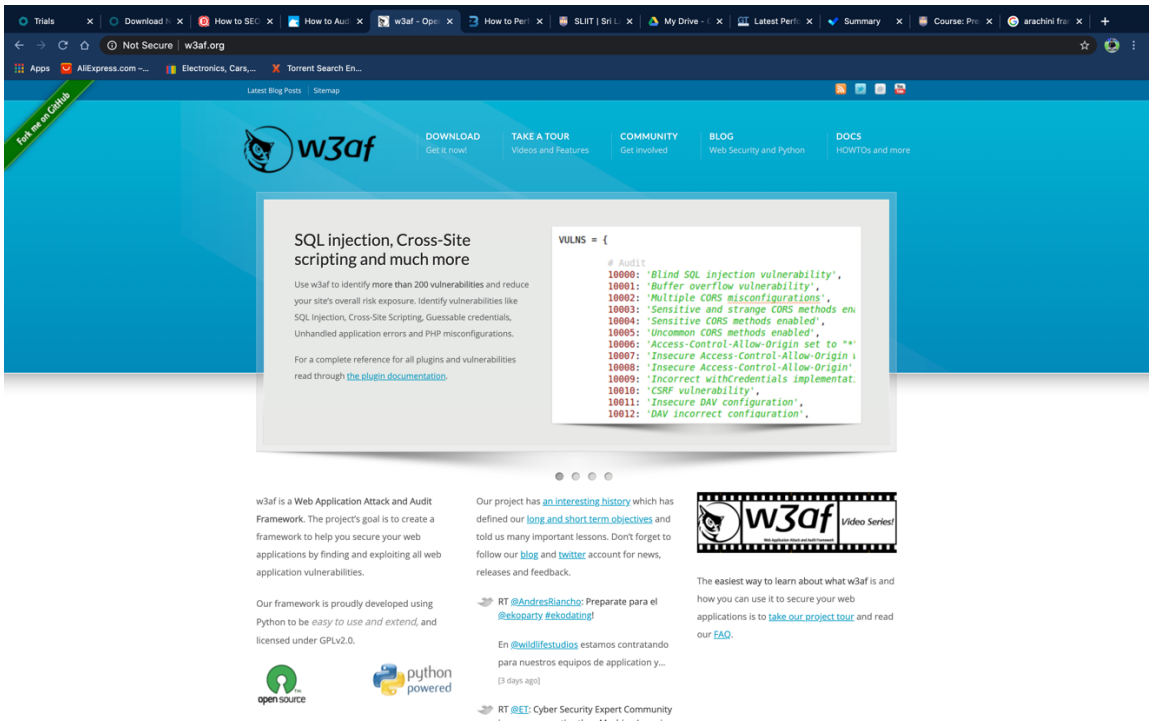

Fig 1.4 : w3af.org wesite interface.

3. Introduction to “Nessus” web application scanning tool

Nessus professional security scanning tool is a commercial web application testing tool. “ tenable” is one of the major security provider in the world. “Nessus pro” is one of their tool. [1]

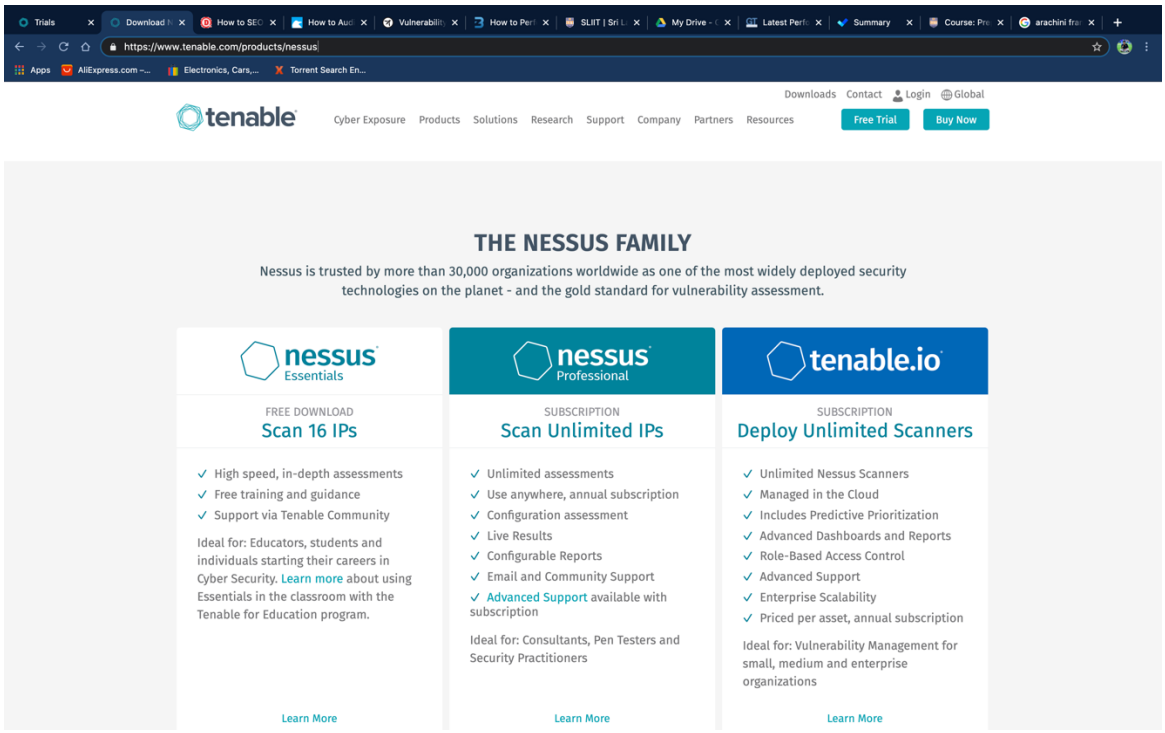

Fig 2.1: Tenable.com products page

“ Nessus professional” login page. In here you have to provide your credentials to log into the nesses.

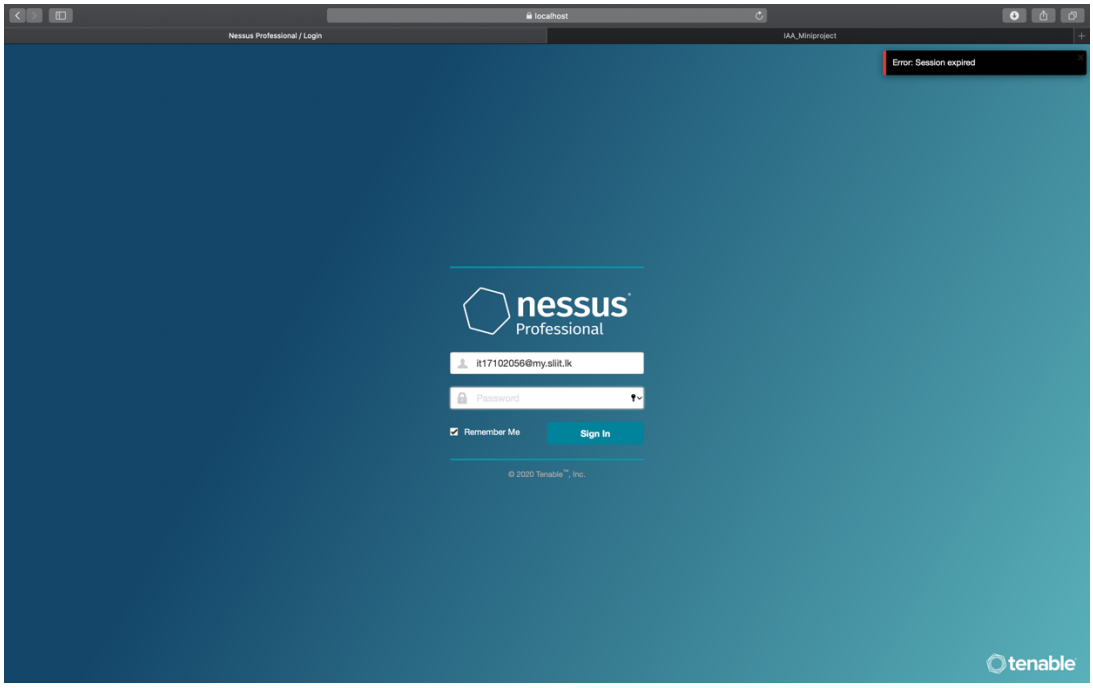

Fig 2.2 : Nessus professional login page.

Not only the website testing but also nessus pro tool can perform many things.

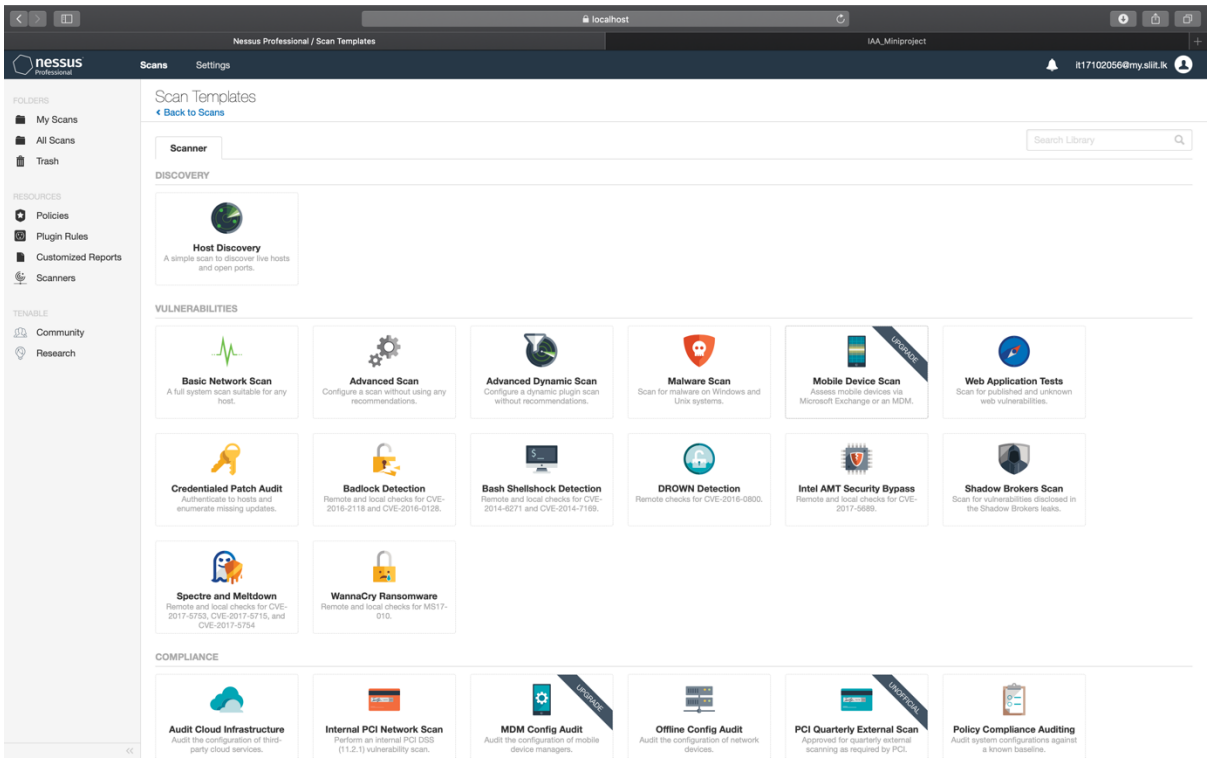

Fig 2.3 : nessus scan templates page.

4. Steps to audit “ www.sliit.lk” using “ Nessus professional” tool

1. After logging to the “Nessus Pro” tool, click on the new scan button on top right of the page.

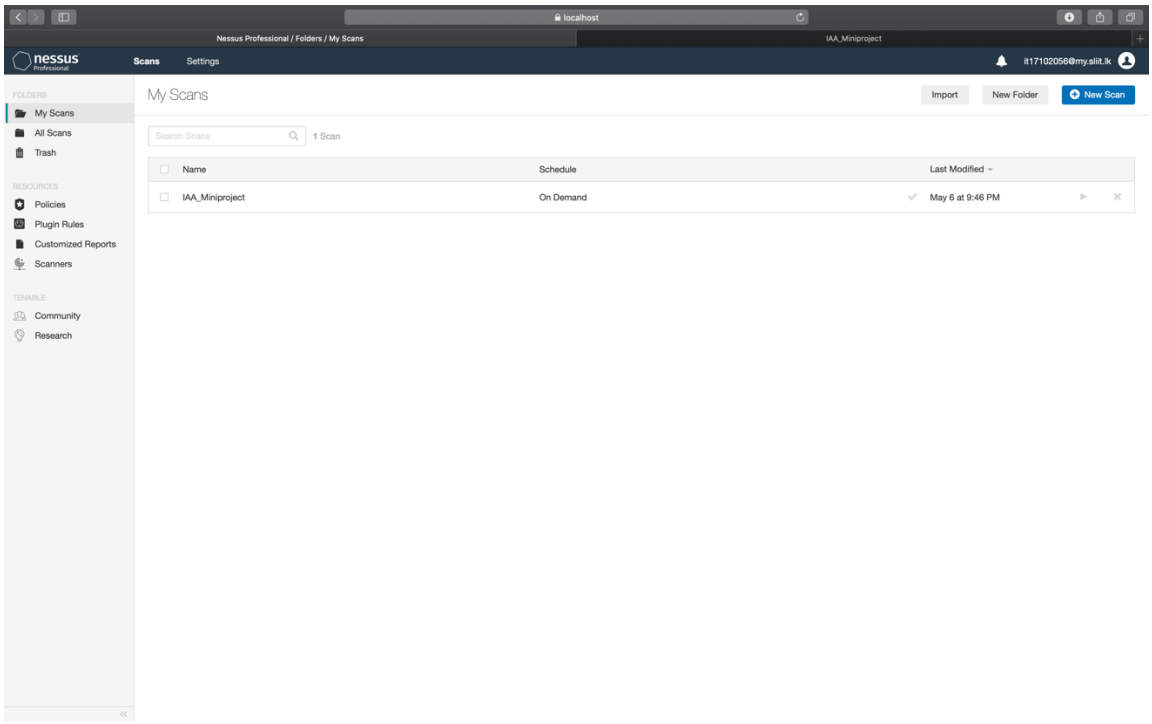

Fig 3.1: My scans page on Nessus pro tool.

2. Then in the scan templete page select the “ web application testing” .

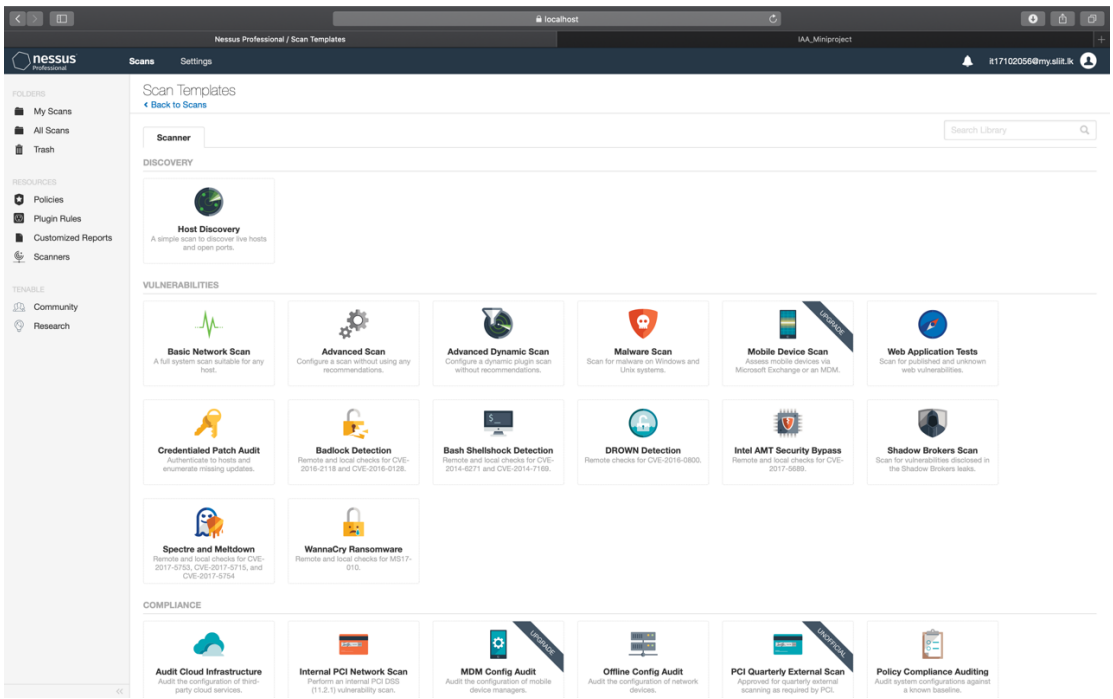

Fig: 3.2: Scan templates page

3. Then just put a scan name and set the target as “ www.sliit.lk”. And press save.

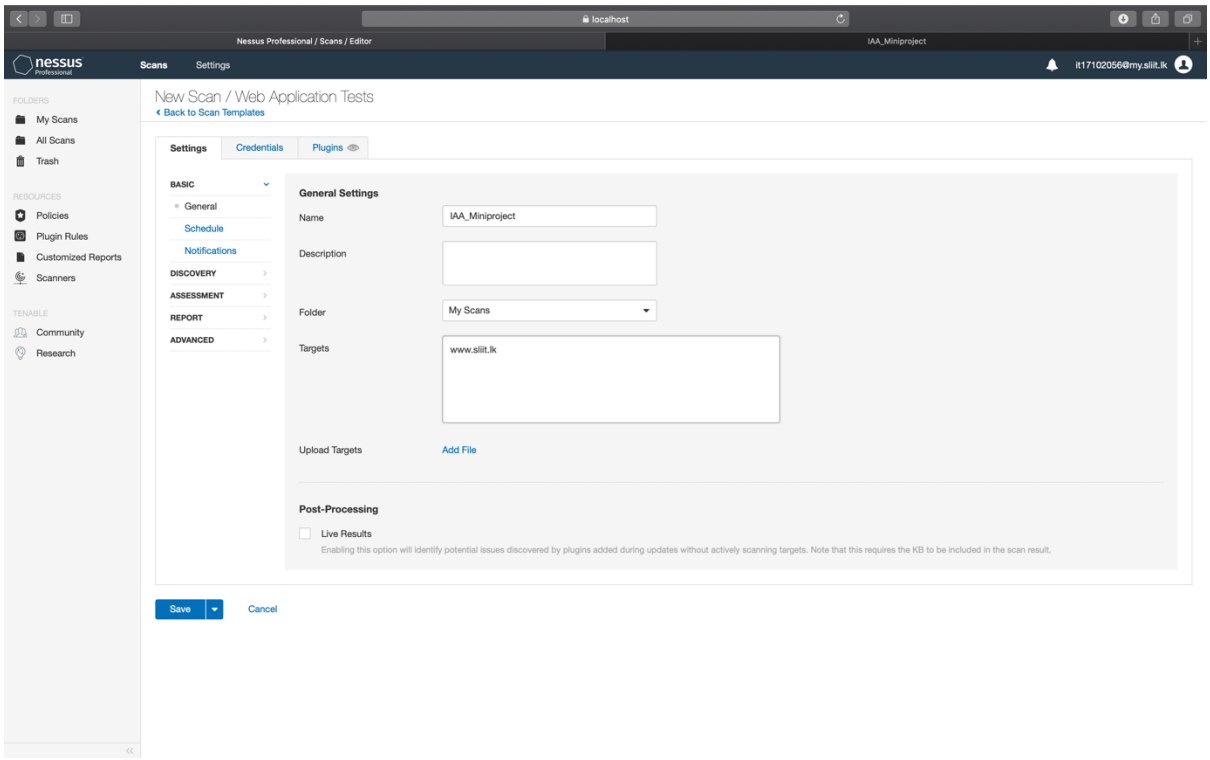

Fig: 3.3: web application testing configure page.

4. Then go to the my scan folder and select the scan that we save in the ealier step and launch it.

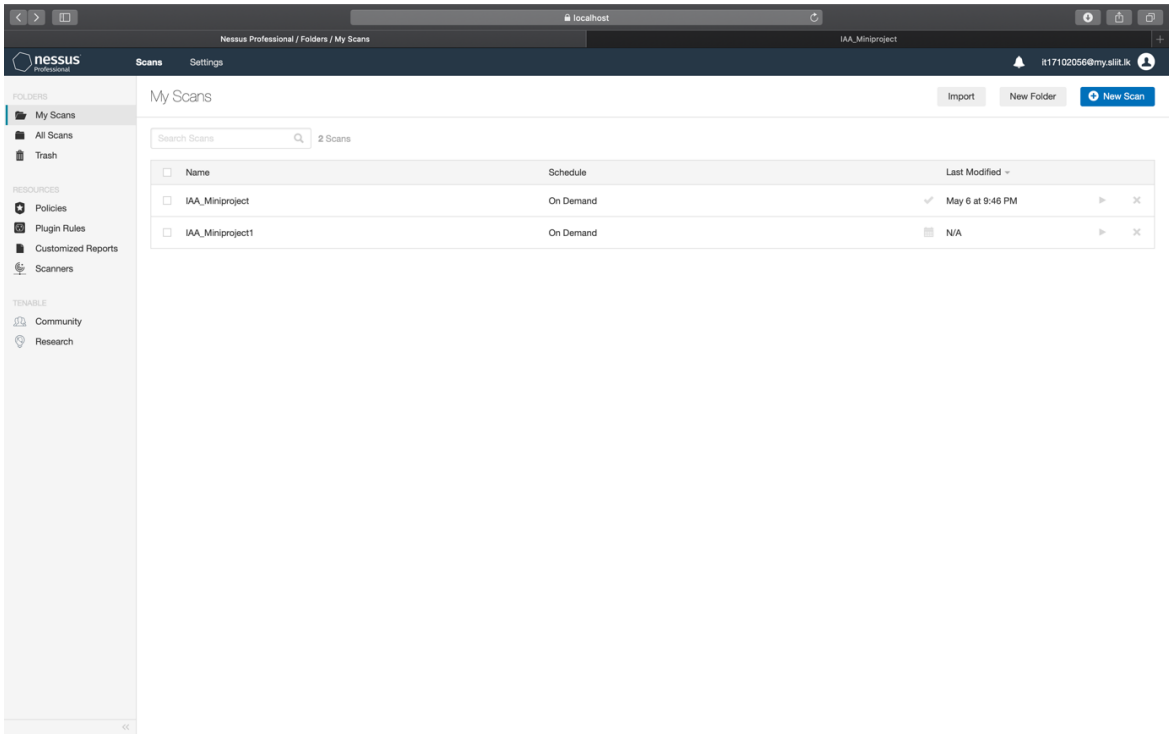

Fig: 3.4 : my scan folder.

5. Now the scan is on running mode. Wait till it end.

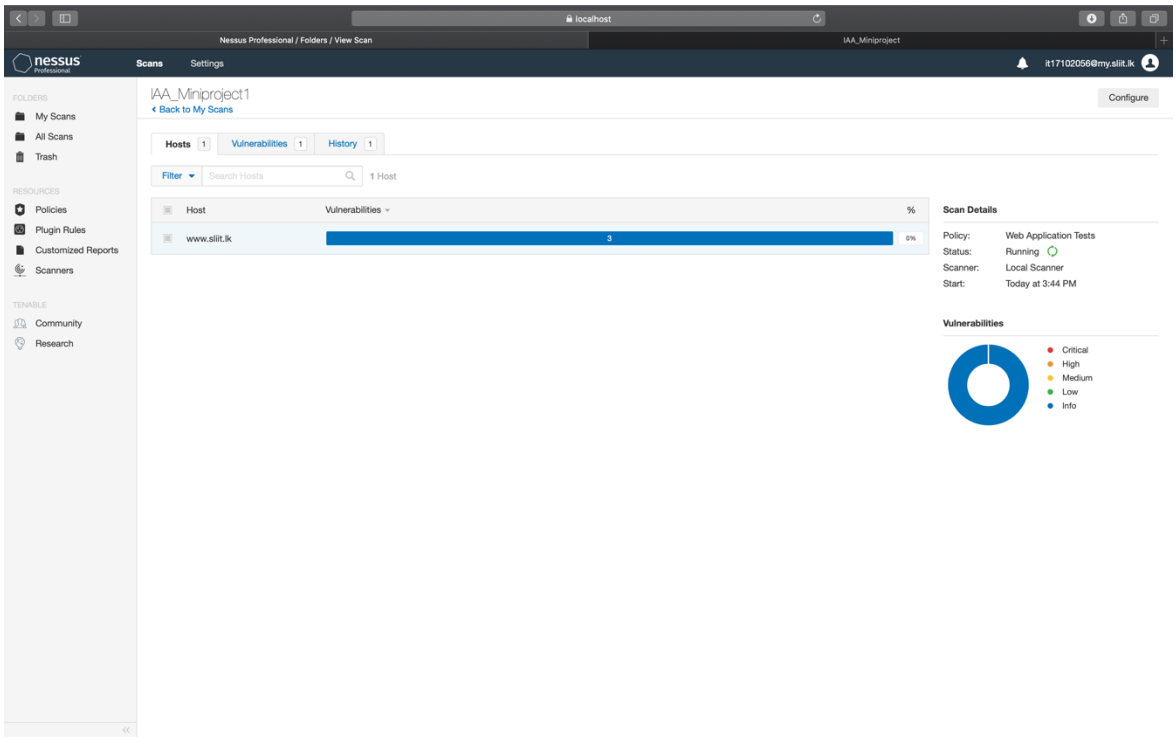

Fig:3.5: scan running page

6. After scan ends we can get a report.

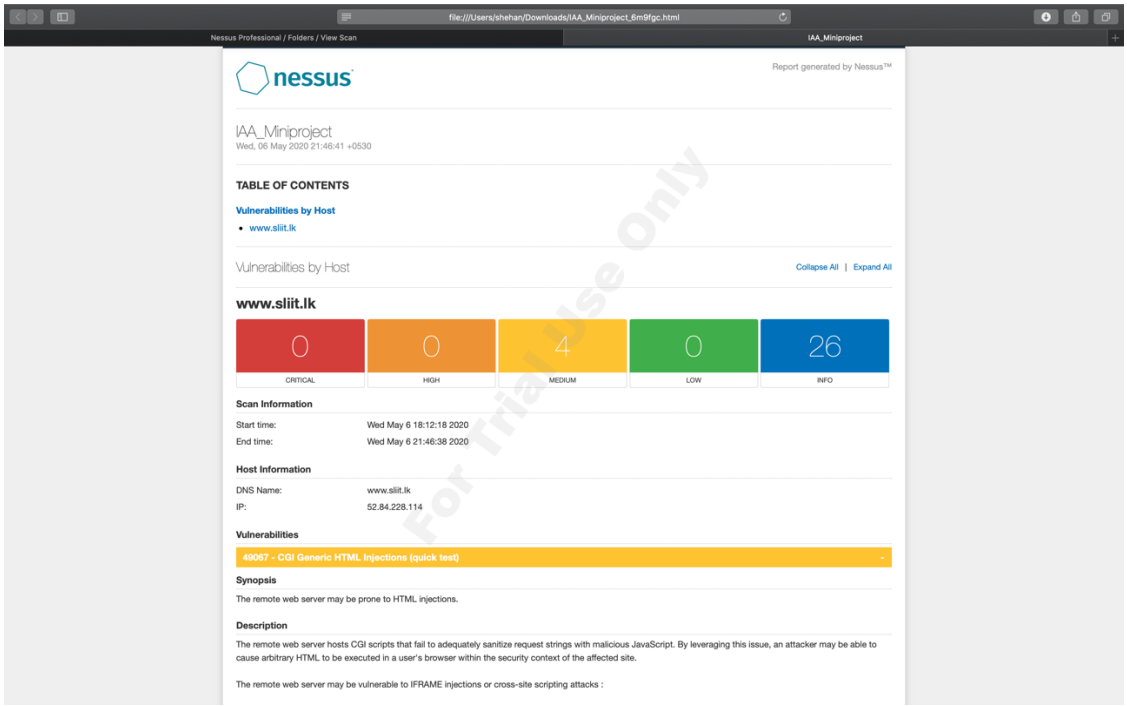

Fig: 3.6: IAA_Miniproject report picture 1

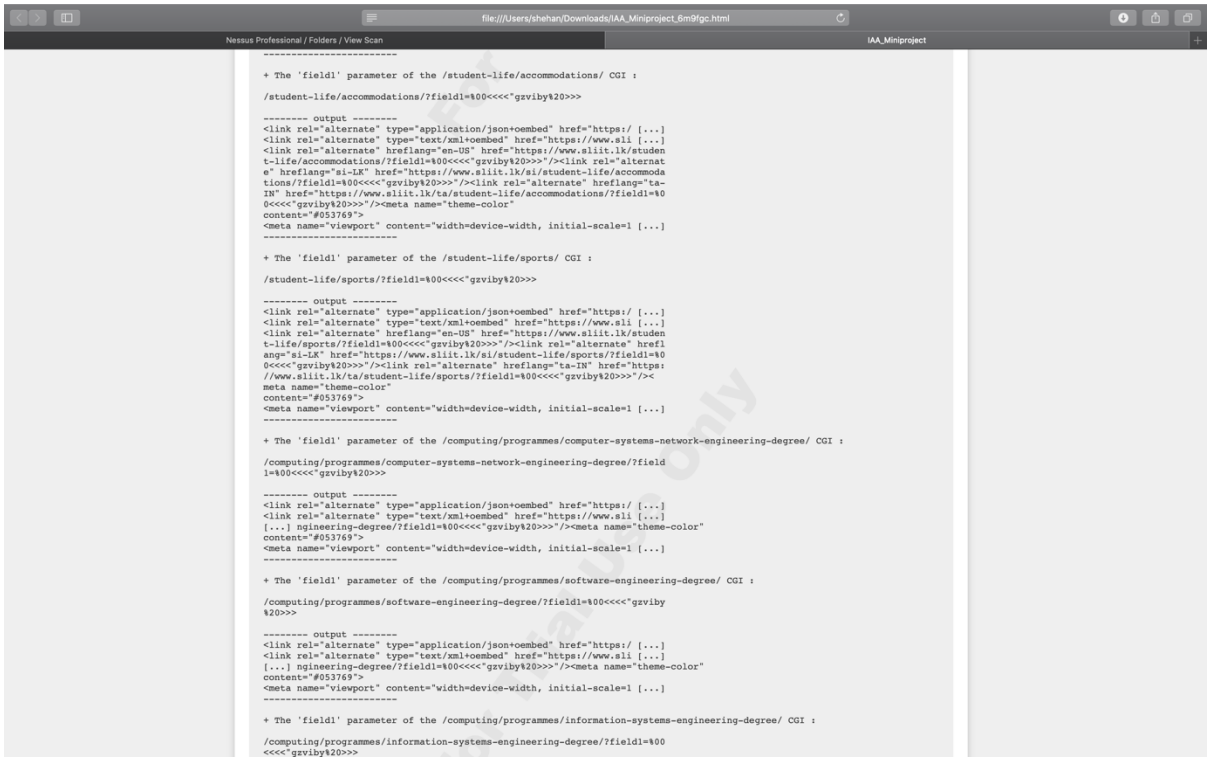

Fig: 3.7 : IAA_Miniproject report picture 2

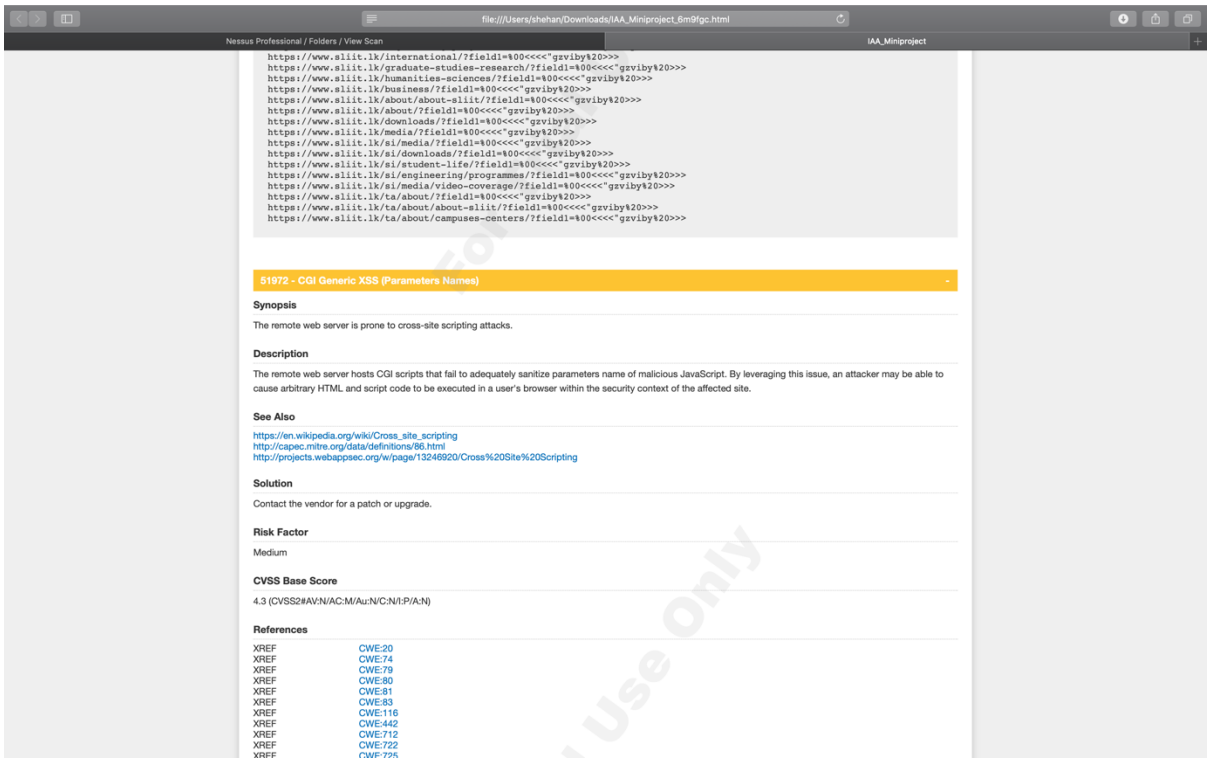

Fig:3.8: IAA_Miniproject report picture 3

5. Additional website scanning

1. GT-Metrix website performance testing

This is a freely available website performancing testing toolin the internet. We can test the performance such as website upload speed by using this tool.[2]

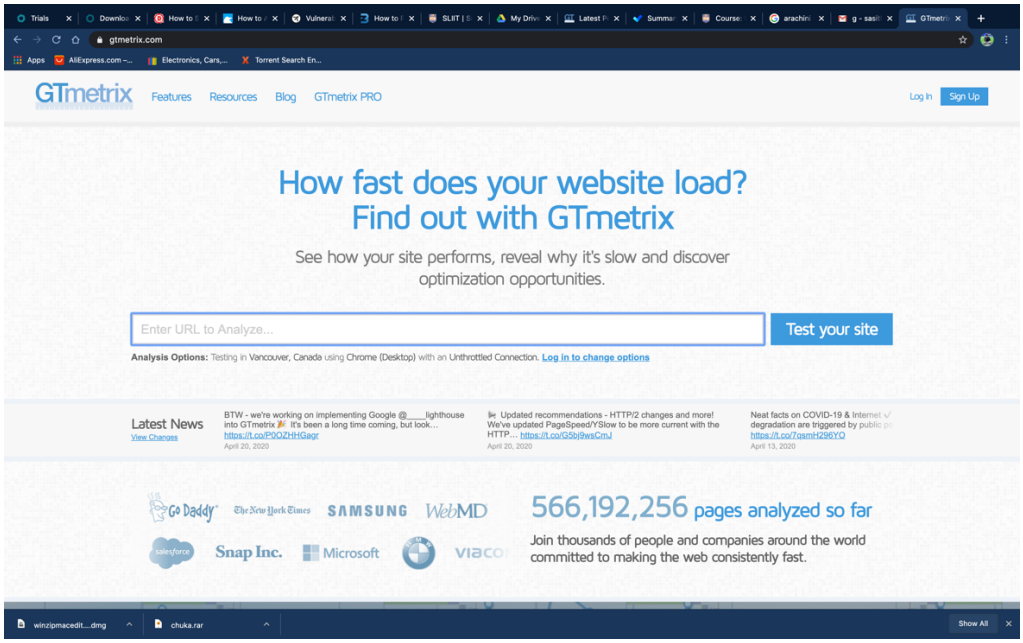

Fig 4.1 : GT-Metrix tool interface.

www.sliit.lk website's gt-metrix results

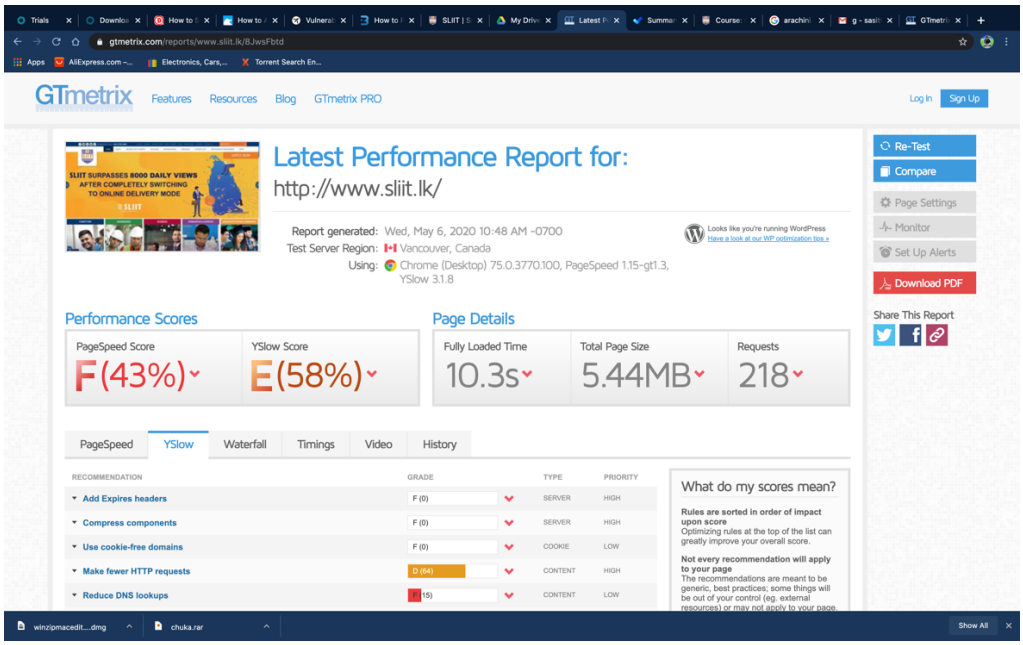

Fig: 4.2: "www.sliit.lk" GT-Metrix results.

2. SEO test using “ site-checker” tool

“sitechecker” is freely available Search Engine Optimization tool.[3]

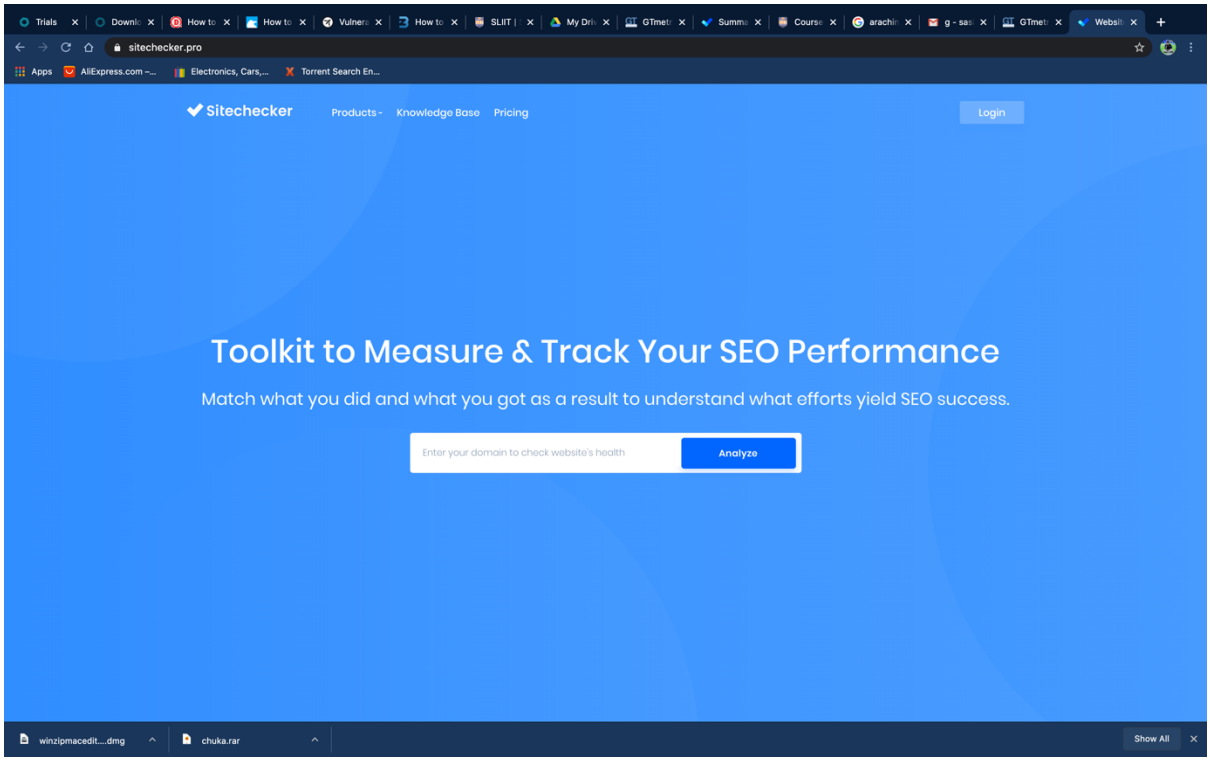

Fig: 4.3: “sitechecker” tool interface

“www.sliit.lk” sitechecker results.

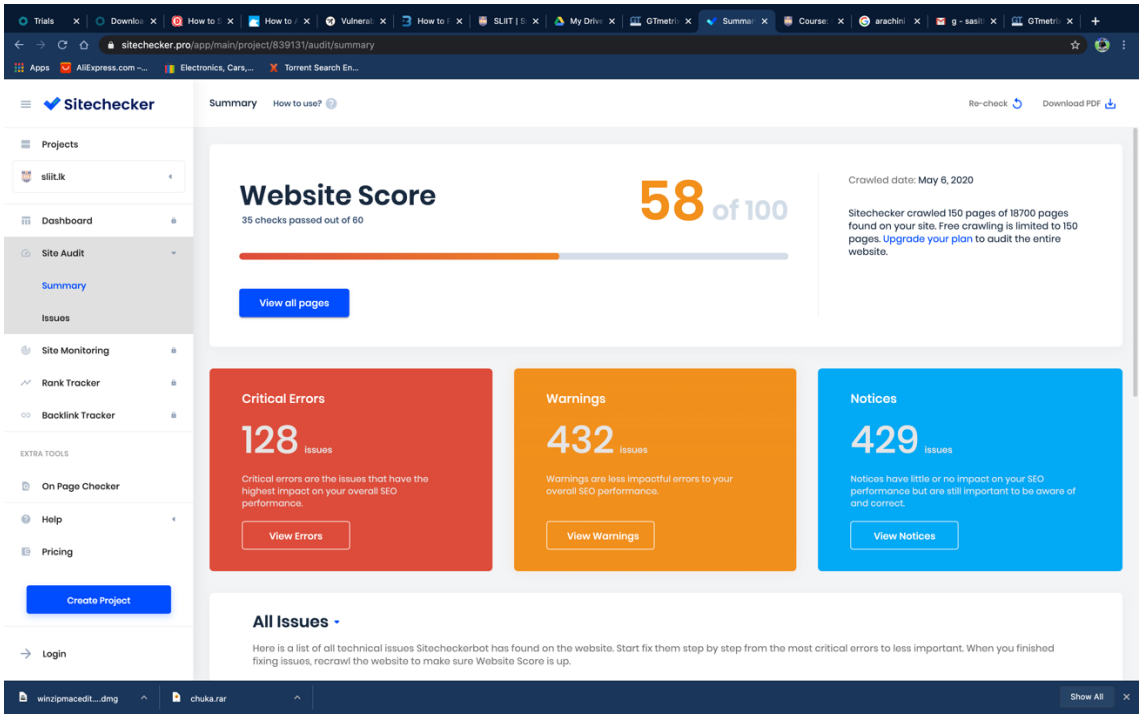

Fig: 4.5 : “sitechecker” results.

6. Conclusion and Recommendation

It is best to do regular audits on the websites in the right time. By doing audits we can identify what bare the weaknesses that are in our website and what can we do to those issues. And in this audit reports we have to go through all the problems and give solutions to them. After doing these solutions we can again scan our website and can see our solutions are worked. In the " www.sliit.lk" scan using Nessus pro tool we identified four medium problems. I recommended to give solutions for these issues and fix them before those medium size errors become critical.

7. Reference

[1] Tenable.com. 2020. *Download Nessus Vulnerability Assessment | Tenable®*. [online] Available at: <https://www.tenable.com/products/nessus> [Accessed 4 May 2020].

[2] Gtmetrix.com. 2020. *Gtmetrix | Website Speed And Performance Optimization*. [online] Available at: <https://gtmetrix.com/> [Accessed 5 May 2020].

[3] Sitechecker. 2020. *Free On-Page SEO Checker – Get Your SEO Score Now*. [online] Available at: <https://sitechecker.pro/> [Accessed 5 May 2020].