WeThinkCode_

WEB II

Project II

Darkly:
There is something wrong...

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October 2020

CONTENTS

1   INTRODUCTION

The aim of this project is to introduce you to computer security in the web domain. You will be able to discover OWASP, which is, no more and no less, the biggest web security project to date. You will also understand what a lot of frameworks do in an automatic and completely transparent way for you.

You will need to use a virtual machine (i386) to validate this project. Once your machine is started with the ISO supplied with the subject. Requirements:

- Virtual Box

- darkly.iso (download here)

- Other stuff

2   GETTING STARTED

2.1   Windows

Windows Installation*: Ensure that you have the latest version of Vir-tualBox for Windows or download it from the VirtualBox Website or Windows Store.
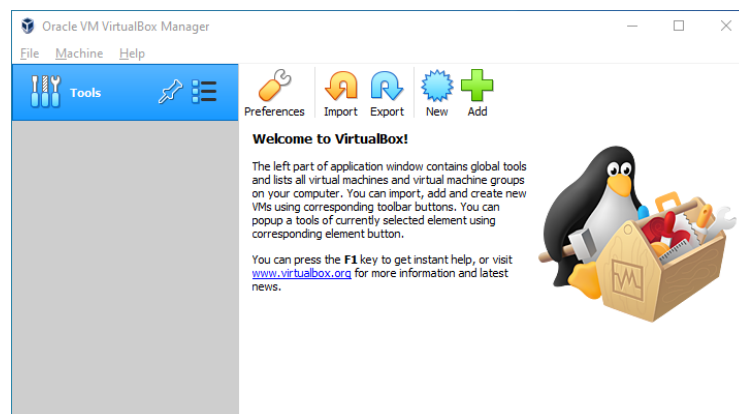
2.1.1   *Create Virtual Machine*

Figure 1: New Virtual Machine Setup

Begin by Creating a new Virtual Machine. To do this click on the blue icon labelled new as shown in Figure 1.

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* *Information provided is correct for current users configuration i.e Windows Home 10:2004, results may differ for other configurations*
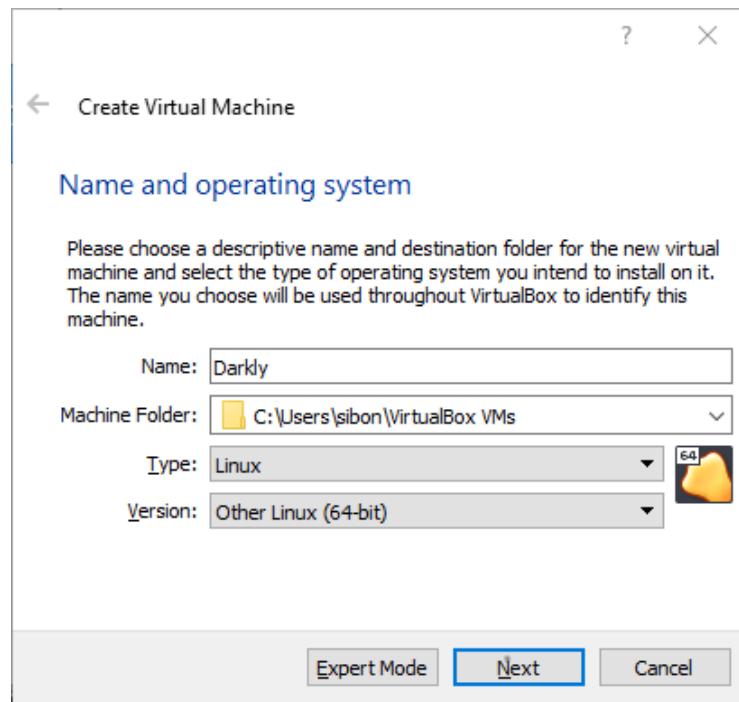
2.1.2 Name & Operating System

Figure 2: Setup Of Operating System Type and Name

You have to give your Virtual Machine a new name, I have chosen 'Darkly'. Make sure to pick a folder for storage of the Virtual Machine or leave it to the default provided by Virtual Box.

You will have to choose the 'type' of machine you are creating. At this point you must select 'Linux' as this is what the Darkly.iso is based from. You will be given options or 'flavours' to choose from. Pick 'Other 64-bit'. This is best shown in Figure 2.

Please do take note that the Darkly VM will not work if it is not 64-bit.

2.1.3 Memory Size

Selecting a memory size is the next step. Darkly will not be actively running as another Virtual Machine would. Therefore only a limited amount of RAM is required. The recommended size is 512MB but in my opinion I believe 1024MB is the best.

To set the memory size, a slide is used, as shown in Figure .

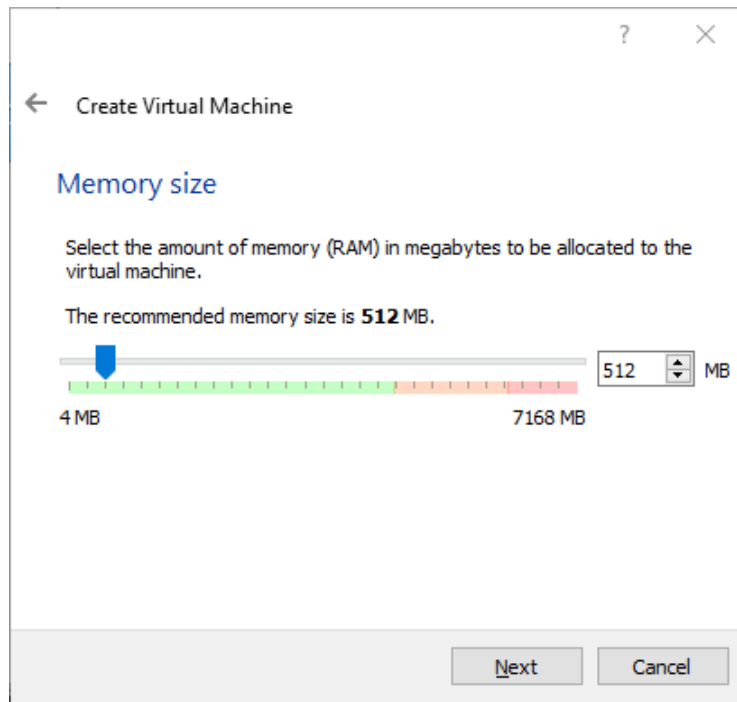You can also set it using manually by typing in the value.

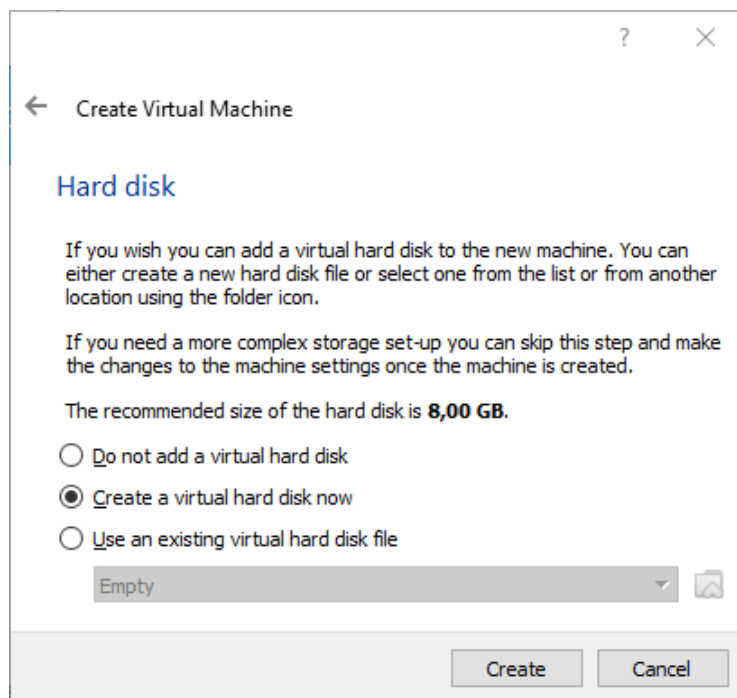**Figure 3:** Virtual Box Memory Size Settings

Figure 4: Virtual Box Disk Type

2.1.4 Hard Disk File Type

Select VirtualBox Disk Image as shown in Figure 4. This is the best decision because the Machine will not be migrated to other Virtual Machine Players like VMWare etc. The use is short-term.
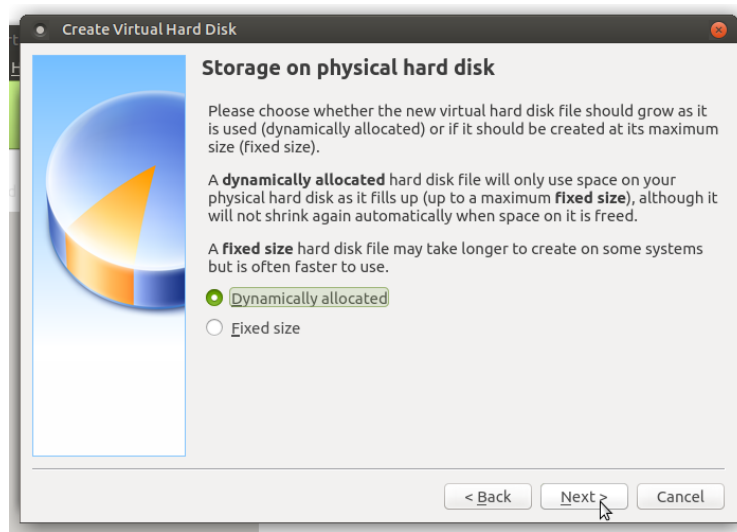
2.1.5   Storage Type

Figure 5: Virtual Box Storage Type

Ensure that you have the size Dynamically allocated as shown in Figure 5. If you would like a fixed size, it is okay, but this entails your Hard Disk being allocated upfront.

Please note, you have not selected your Hard Disk size so it is key to ensure you are aware of how much space you have free before allocating a fixed space size.
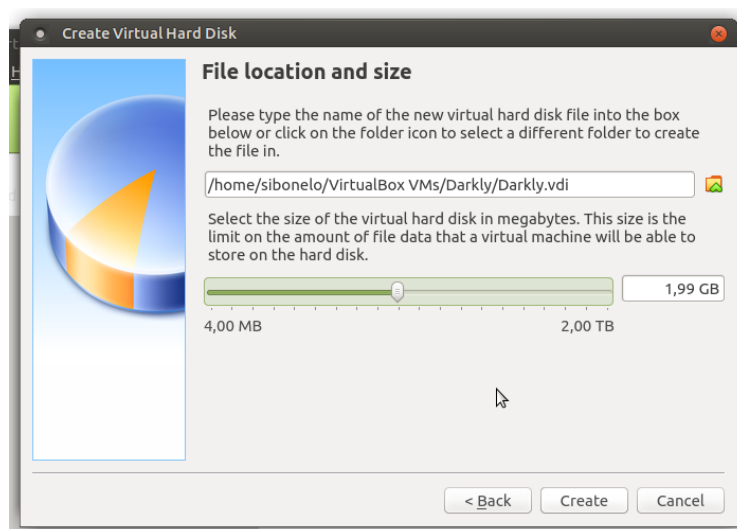
2.1.6   File Location & Size

Figure 6: Virtual Box Hard Disk Location and Size

This is where you can set up the location for your Virtual Box Machine to store its data. Remember that the machine can be stored in

one location but the simulation of its Hard Disk can be stored on a Flash Drive or External Drive if you wish.

I have decided to retain the local drive as the storage location. This is the default VirtualBox directory. You can select any size you wish, I have selected 1,99GB to keep my box small as shown in Figure 6 on the previous page. I can ammend this later if I need to.
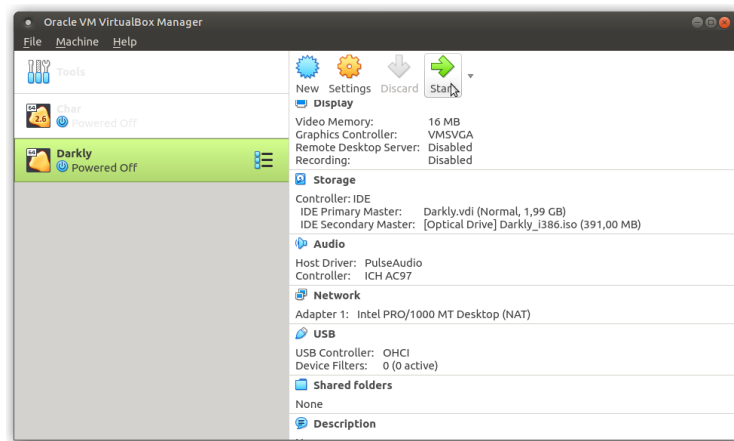
2.1.7   Mount Disk Image

Figure 7: Virtual Box Setup of Disk Drive Mount Darkly.iso Image

The next step is to mount the Darkly.iso disk as a form of storage. Click on your image 'Darkly' or whatever you may have named it, on the lefthand navigation panel as shown in Figure 7.

Next click on Settings -> Storage -> IDE Secondary Master. After this, navigate to the folder where the ISO is located. Mount it and you will see it listed as shown in Figure 7.

Click Start (Green arrow pointing right) to commence running the image.

2.1.8   Run Disk Image

As shown in Figure 8 on the following page, you are expected to select 'Darkly_i386.iso' as the start-up disk. This will then complete the Installation process.

2.1.9   Running but Incomplete

You have successfully installed the VM and it is running. The IP address is printed on the screen. ...I bet that the IP address does not
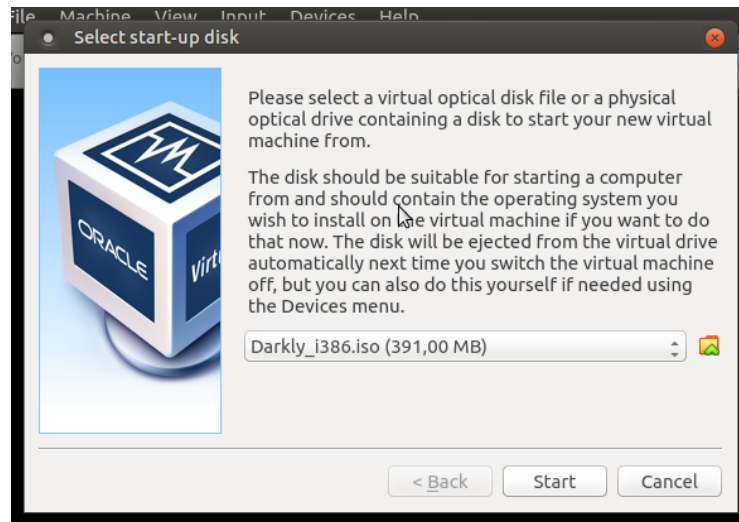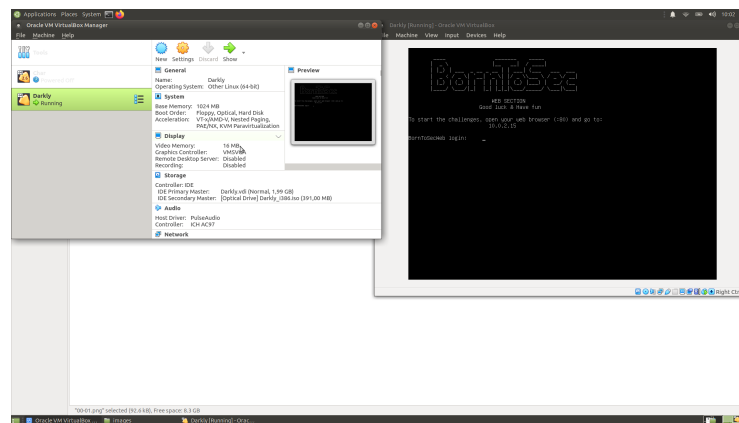
Figure 8: Virtual Box Start-up Disk Selector

Figure 9: *Virtual Box Landing*, on Ubuntu

really work. . .

This needs you to go to settings as shown in Figure

2.1.10 Set Network Bridge

On the lefthand navigation-bar, Select Network -> Adaptor 1. Change the settings from a NAT Adaptor as would be the default, and set it to a 'Bridge' connection. as shown in Figure .

2.1.11 Don't Panic! Loading Screen

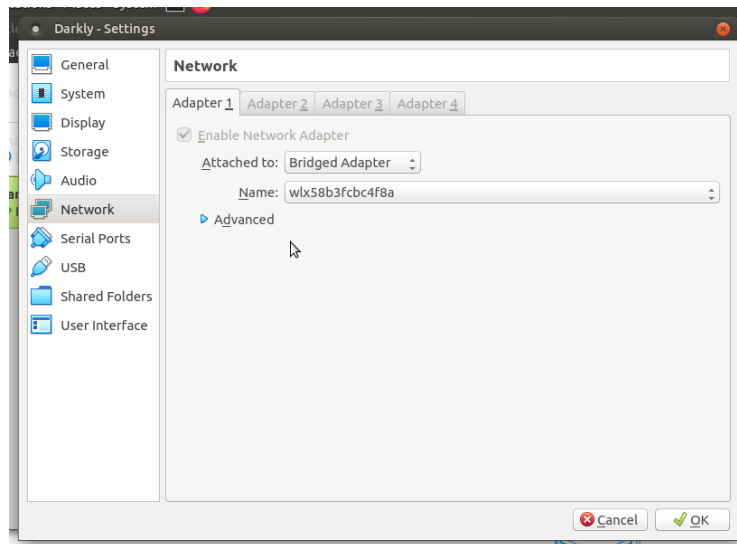**Don't Panic, it's just a loading screen**

Figure 10: *Virtual Box Landing*, on Ubuntu

Figure 11: Virtual Box Loading Screen Splash with Hitchhiker's Guide Robot

2.1.12 More Loading Screens

If you are seeing the figure shown in Figure you are making good progress and must hang in there.

2.1.13 Up & Running

The new IP Address should look different to the first one and should be similar to your own IP address after runnung 'ifconfig'. You should see a similar figure to that shown in Figure .
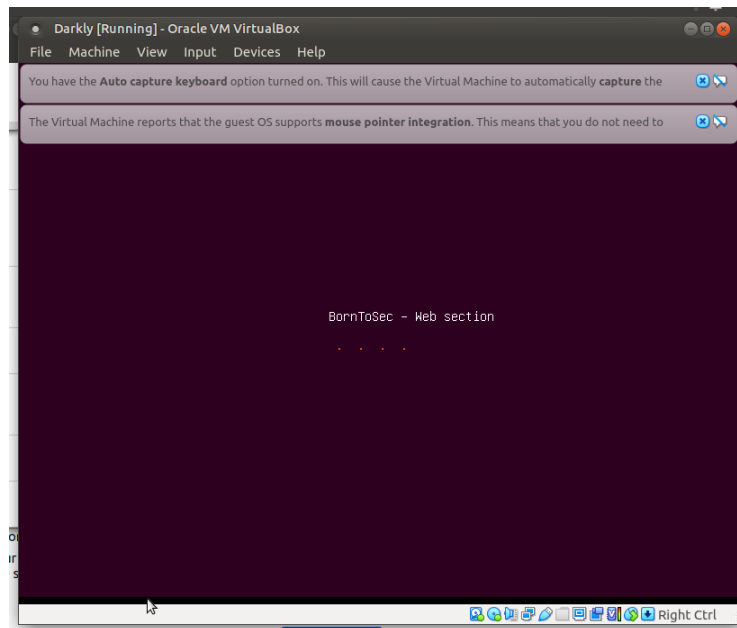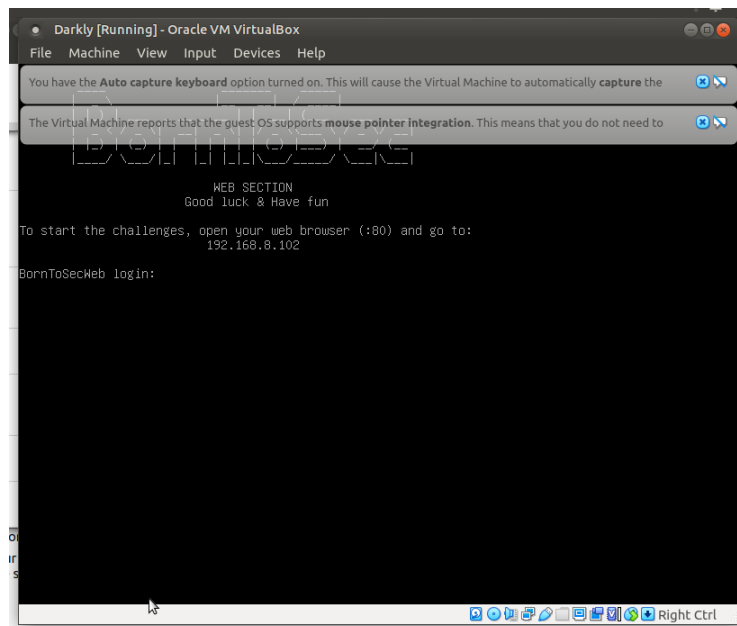
Figure 12: More Virtual Box Loading Screens

Figure 13: Virtual Box Fully Loaded Screen with IP Address & Prompt

2.1.14 *BornToSec*

If you see the same figure on your screen as the one shown on Figure , then you have successfully setup your Virtual Machine.
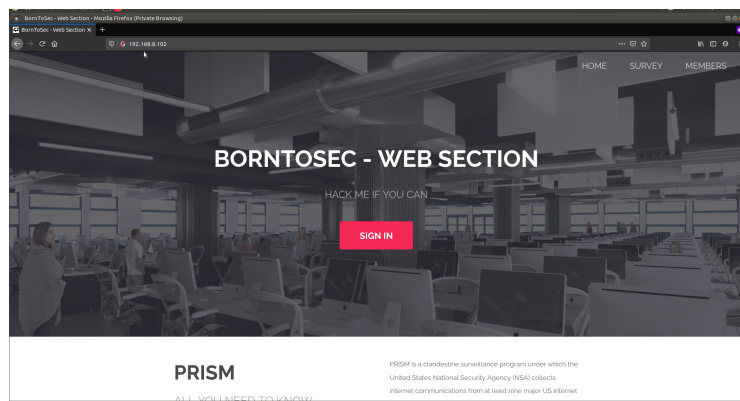
TIME TO DO THE FUN STUFF!

Figure 14: BornToSec Homepage

2.2   Linux

2.3   MacOS

At the time of typing this document a Mac was not available to conduct testing but the documentation[1] does have instructions

3   FLAG #01

4   FLAG #02

A Section or subsection covering extensively unit testing will be key either here or on it's own chapter

5   FLAG #03

6   FLAG #04

7 BIBLIOGRAPHY

REFERENCES

[1] Docker Documentation Website. Install docker on macos. *https://docs.docker.com/docker-for-mac/install/#install-and-run-docker-desktop-on-mac*, Current Version, 2020.

8 STUDENT HONESTY DECLARATION

Engaging in any cheating or dishonesty in any form of assessment, assignment, test orexamination or other WeThinkCode_ prescribed work is considered cheating and is grounds for disciplinary action. Plagiarism, which is to present work (or a portion of work) as your own when it is not, isconsidered cheating and is not accepted at WeThinkCode_.

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- The evaluator (marker) identifies that the student does not understand all or part of the work they have submitted.

- If all or part of the work presented is plagiarised ,i.e. copied from another source without reference.

Cheating in group projects

The main purpose for a group project is to give students the experience of working in ateam, by coming up with a solution to a problem together.

- Each member must be able to show which portion of the project they worked on.

- Failure to do so will result in the student being flagged for cheating which will begrounds for disciplinary action.

- This is to avoid single members doing the majority of the group project at the benefit of a member who is not contributing.

- In this way we are able to ensure fair assessment of each WTC_ student's competence.

Group projects can be approached in two ways.

1. Divide and conquer: This is usually preferred and advised when working on big projects. The project is divided into segments, in which each member of the group can accomplish. Once completed, the group will then integrate the segments to complete the project

2. One for all: This method is usually preferred and advised when a group is working on a small project. The group will work on the solution together from the start of the project until the end. This will require the members to move at a pace in which everyone in the team can keep up with.

NOTE: At the end of each group project, each member should have a general and basic understanding of the project and the solution found. This will include running,testing and explaining the solutions of the project.

DECLARATION

I hereby declare that the work submitted by me and/or my group members is:

- Original (not plagiarised)

- References listed

- Honest & in Good Faith

- Subject to WeThinkCode_policies

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