CYBERSECURITY DEPARTMENT - TECHNICAL UNIVERSITY OF DUBLIN

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FINAL THESIS

FINAL THIRD YEAR GROUP PROJECT

BOTNET

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Declaration of no Plagiarism

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Dated: 04/15/2023

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Abstract

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Keywords: Botnet, malware, virus, rust, TODO.

Contents

I. Introduction

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II. Our choice and design

II.1. What make us choose a botnet

When we began to work on the project, we first had to choose a good project. Many other choose to make a website or something related, but we were more interested in cybersecurity related stuff. That why, our first idea was to make a honypot. But the problem was that soon enough, we realise that we couldn't get any good ideas, or realisables ideas in the time we had. Because of that, we decided to change. We thought, what if we decided to make a malware? Our first idea was to make a software, with a backdoor inside. But the backdoor is for doing what? We choosed to add it to a botnet. As the project matured, we decided to not making the backdoor, bot only the botnet, and the way it will be ran will be by a remote code execution exploit.

II.2. Plan and idea of the botnet

The first part of every project, when we know what project we want to make, is to design it. We first choosed, the languaged that we were supposed to use. We choosed RUST. It's a fast language like C, but everytime you compile, it gives you some tips on how to solves problems in your code. It's other big advantage is that it's a modern language, with a lot of modern feature, and constantly check that there is no problem with the memory allocation. None of us is a experienced developper, as such, learning rust was the most adapted thing we could made for the project. After that, we made a list of the differents parts of our project.

- sandboxed environment to avoid it to spread
- find an exploit to use
- make the actual botnet
- find a way to make the exploit run the botnet.

II.3. design explanations about the botnet.

about the sanboxed environment

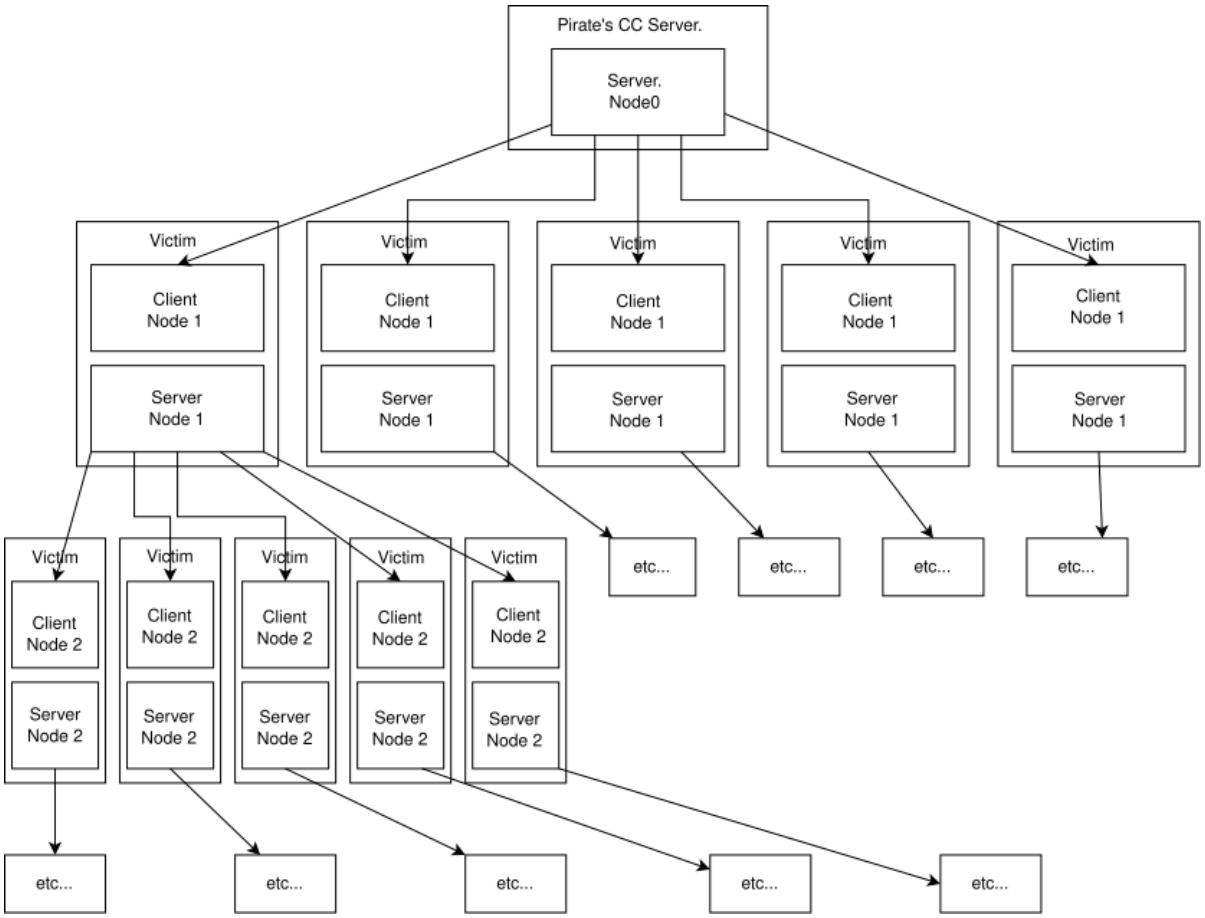
The first part for this project to run properly was to make the sandboxing environment. Fortunately, to makes one isn't that difficult. We decided to use qemu, and make three mode. First, the instalation mode, use to install the linux system on an image. Second, the networking mode, or maintenance mode, use to install our botnet, or the software which contain the vulnerability. Lastly, the sandboxed mode, use for when we will actually run our botnet.

how the botnet will be supposed to work

Our way to make it works is from a simple basic. We planned to make juste a server and a client. The server will have three role. 1st, deliver the exploit to gain 5 bots. 2nd, deliver command to thoses bots whenever they asks to do something. 3rd, deliver it's own code to self replicate.

The client, run by the exploit on the victim machine will do; 1st, connect to the server to get the list of the files to download. 2nd, download the files from the server to became a full node. 3rd, launch another server, to become a node by itself. 4th, at the same time as running the server, every 12h, get from the node parent the order file, execute the order, and make it available to the lowers nodes.

A fully devellopped botnet should look like this.



III. Part 2

III.1. Something part

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III.2. Something part

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III.3. Something part

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IV. Part 3

IV.1. Something part

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IV.2. Something part

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IV.3. Something part

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Conclusion

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Glossary

- **Botnet:** A type of malware which takes control of numerous machines to lauch somes attacks. Althought it's usually used to lauch denial of services attacks, it can also be used to crack password or even mine cryptocurrency.
- **Other example:** Lorem ipsum dolor sit amet, consectetur adipiscing elit. Pellentesque viverra pulvinar dui ut venenatis.

Refenrences

[1] This website is the first example that came to my mind as an example.. https://example.com

[2] This is another example to show peoples what is en entry in the references chapter.
https://secondexample.com