***Capture The Flag (CTFs)***

* Cyber Security Guide #1

With the ever-rising need for cybersecurity experts and professionals, there has never been a better time to become an Ethical Hacker. Companies hire ethical hackers to find and improve-security flaws in their systems, to prevent cyber-criminals from being able to hack them and steal their information/data.

So now a simple question would arise in your mind, How do you start your journey to become a successful and well equipped Ethical Hacker? Well, just laying it out simply, there are various certifications and tools online to help you kickstart your journey. Although, the process also involves certification exams to prove your skills as a hacker.

One of the major tools/resource ones comes around while exploring this field is

CTF (Capture The Flag). In this article below, we deep dive into the world of cybersecurity and try to explore what and how does CTFs actually help the people who are on their path to becoming an Ethical Hacker or a Cyber Security Expert.

**What is CTF (Capture The Flag)?**

A CTF or Capture The Flag, is a game-like experience wherein players (or hackers) put their skills to practice by solving the problems or break into the opponents system.

There are two basic types of CTFs :

1) Jeopardy Style - In this style of CTF, players need to solve the problems to acquire Flag (a specific string of text) in order to win.

2) Attack - Defence Style - In this type, two teams are created: Red Team- which tries to breach into a system and a Blue Team- which tries to defend the system.

**What really happens in CTFs?**

In this article, well be talking about the more beginner-friendly CTF i.e. Jeopardy Style.

In this, the CTF server hosts problems which upon being solved reveals a Flag, which when entered into the website shows that you have solved the CTF problem.

Example of a typical Flag : Flag{ThisIsFun}

**Common Challenges Types in CTFs**

1) Cryptography: Involves decrypting or encrypting a piece of data.

2) Steganography: Involves finding information hidden in images or files.

3) Binary: Involves exploiting a binary code or file.

4) Web Exploitation: Exploiting the web-pages in various ways to find the flag.

5) Pwn: Exploiting a server to find the flag.

**Skills Required in CTFs :**

1) Basic Computer knowledge and its working.

2) Basic Programming Skills.

3) Useful Tools like Command-Line, Nmap, etc.

4) Basics Of Networking.

5) The creative mindset in Problem Solving.

6) Know how to research and have exceptional Googling Skills.

**Why Should one take part in CTFs?**

Now, lets answer one of the most crucial questions to our topic, what good is there for a person taking part in any CTF or even do problem-solving practice in this way.

Well honestly, the best part about a CTF is that you can start with even a beginner level of knowledge and advance your skills and knowledge as you progress further. The basic idea behind CTF is that Learning By Researching. So, most players actively learn about new terminologies and technologies when they research online to understand the technology behind the problem or to find an efficient way to solve that kind of problem.

The world of Ethical Hacking and Cyber-Security has really a very vast community in the world. So, CTF creates a door for you to compete against each other or collaborate to solve that one problem outside your area of expertise. Also, this helps build your social skills as you learn to communicate and collaborate with others as a team, a skill many employers seek in potential employees.

Fun also plays a key role while learning anything new. The challenges in CTF put your mind at work in a creative and youll have fun while getting the solution to a problem. This is the reason why CTFs never get stale and help you learn new things about the Cybersecurity field.

Alright, now the question would arise in your, from where can I start problem-solving and increase my level? We have got you covered on that part as well.

**Some Resources**

1. Documentation on various tools - **https://ctfs.github.io/resources/**
2. Website for problem-solving - **https://ctflearn.com**
3. Puzzle Solving Tools - **https://www.boxentriq.com/code-breaking**
4. Problem Solving (Advanced) - **https://www.hackthebox.eu**

In the world of Cyber-Security and Ethical Hacking, competitions play a key role for all the players/ hackers to put their skills and expertise to test.

Various Capture The Flag contests are held across the world wherein hackers from all around the world competes in teams or as lone wolves.

For your curious minds, weve cumulated a list of such contests. You can explore them separately and if you think you are ready to take on them, can compete in them too!

**Top 10 Cyber Hacking Competitions**

**- Capture The Flag(CTF)**

1. Insomniac (CTF Weight 100)

2. OCTF/TCTF (CTF Weight 99.55)

3. GoogleCTF (CTF Weight 96.34)

4. PlacidCTF (CTF Weight 93.15)

5. DEF CON(CTF Weight 67.72)

6. FAUST CTF (CTF Weight 65.0)

7. ASIS CTF(CTF Weight 64.97)

8. Pwn2Win CTF (CTF Weight 63.56)

9. InCTF International (CTF Weight 53.97)

10. RCTF (CTF Weight 52.89)