

Systems Programming Group induction assignment

Are you new to CTF (Capture the Flag) competitions and eager to participate? This beginner's guide will walk you through the basics, answering your questions and providing essential tips for your first CTF experience.

1. What is a CTF?

CTF stands for Capture the Flag. It's a cybersecurity competition where participants solve challenges to find "flags," which are the answers to the questions posed. Flags are hidden behind codes, files, puzzles, or encryption. The goal is to break through the security measures, solve puzzles, or exploit vulnerabilities to retrieve the flags.

2. Google to the Rescue:

You might be thinking, "I don't know anything about hacking!" Fear not! In CTFs, prior knowledge is not always necessary. Google is your best friend. If you encounter a challenge or topic you're unfamiliar with, simply search for it. Many challenges can be solved by researching and learning on the spot.

3. Utilizing Chat GPT for Assistance:

Asking Clarifying Questions if you don't understand the question.

Exploring New Approaches- Many a time the approach we take doesn't work out, gpt may suggest you something new which with modifications may help you solve the challenge.

4. How do I start??

To kickstart your CTF journey, a great way to learn is by reading write-ups of past CTF challenges. Write-ups are detailed explanations of how participants solved specific challenges, providing insights into techniques, tools, and problem-solving approaches. This will help you develop approaches and a thought process.

For example, here is a writeup of PicoCTF 2018 by the team Galaxians.

https://github.com/shiltemann/CTF-writeups-public/tree/master/PicoCTF_2018

OR refer to this youtube channel for walkthroughs

https://www.youtube.com/@_JohnHammond

You can also look at the write ups of previous HackRush CTF events (You are gonna have to do it yourself, remember, google is your friend)

5. Gather your tools:

The most popular operating system for hacking is Kali Linux, although not necessary tools available on it help. Again not to worry you can set up a virtual machine or a bootable usb if you don't want to part with your beloved windows operating system.

Guide: <https://youtu.be/I0JgWiK6ok> (virtual machine)

<https://youtu.be/Tu6dFSATfEI> (bootable usb tougher to set up)

6. As a beginner, start with the easier challenges. Read the challenge description carefully and understand its requirements. Break the problem into smaller parts, research relevant concepts, and use your tools and resources to tackle it. All discussions pertaining to the problem are expected to happen in the group as this is an individual task.

The most important part? Enjoy the experience, learn from each challenge, and don't forget to have fun along the way. Good luck in your first CTF adventure!

Guidelines:

- No direct discussion of flags or hints is allowed.
- If you have a doubt please ping Nishant Tatar, Viraj Vekaria or Shreyans Jain.
- General questions related to process, guidance, or related to the interface etc can be asked in the group chat.
- At the end of the hackathon, you are supposed to make a writeup that will include the following:
The write ups of all the challenges that you solved
Unsuccessful attempts at solving a challenge. The approaches that you considered, why it did not work etc.
Your learnings.
- You are required to put all your submissions in a **GitHub repository** and provide the link in the Google form. We will not accept submissions through any other method.
Link to CTF: <http://144.110.250.188/challenges>

Forms link will be added, check on the last day of submission.