



Introduction to CTFs

What are CTFs and how to get started

LosFuzzys

October 20, 2023

Introduction



- ~ 15 active Member
- Meet every Wednesday 18:15
(Infeldgasse 16a, ground floor)
- Regular competing in security competitions, host CTFs, trainings and workshops





What are CTFs?

- Capture the Flag
- Competitions with a focus on cybersecurity
- Either online (mostly) or offline (typically for finals)
- Usually take 24 hours, 36h or even longer

There are usually the following gamemodes

- Jeopardy (most common)
- Attack-Defense

Flag?



LosCTF{this_could_be_a_flag}

CTFTime



CTF TIME CTFs Upcoming Archive - Calendar Teams - FAQ Contact us - About Sign in

Team rating

2023 2022 2021 2020 2019 2018 2017 2016 2015

2014 2013 2012 2011

Place	Team	Country	Rating
1	Blue Water		1272.461
2	kalmarunionen	DK	1039.562
3	C4T BUT S4D	RU	1010.123
4	justCatTheFish	RU	887.259
5	r0kapiq	DK	822.413
6	SKSD	DK	761.927
7	organizers	CH	708.467
8	thehackerscrew		701.765
9	Project Sekal		684.336
10	WreckTheLine		677.514

[Full rating](#) | [Rating formula](#)

Upcoming events

[Open](#)

[Finals](#)

Format	Name	Date	Duration
CTF	Hackvens 2023 at France, Lyon	Fri, Oct. 13, 09:00 — Sat, Oct. 14, 06:00 UTC	21h 7 teams
CTF	TCP/IP CTF 2023: First Step Beyond Nusantara On-line	Fri, Oct. 13, 13:00 — Sun, Oct. 15, 13:00 UTC	2d 0h 95 teams

[Full rating](#) | [Rating formula](#)

Now running

Balsn CTF 2023

On-line 128 teams

Sat, Oct. 07, 2023 02:00 — Mon, Oct. 09, 02:00 UTC

(0d 12h more)

SunshineCTF 2023

On-line 120 teams

Sat, Oct. 07, 2023 14:00 — Mon, Oct. 09, 14:00 UTC

(1d 22m more)

BlackHat MEA CTF Qualification 2023

On-line 58 teams

Sun, Oct. 08, 2023 13:00 — Mon, Oct. 09, 13:00 UTC

(0d 23h more)

Past events

With scoreboard

All

Ground Zero-Hackathon-CTF 2023, Siliguri

Oct. 04, 2023 08:30 UTC | Siliguri, West Bengal 734001, India

Place	Team	Country	Points
1	Rajdip Dey Sarkar		0.000
2	webhunter		0.000
3	Z3r0_0g0n	IN	0.000

3 teams total | Tasks and writeups

MapleCTF 2023

Oct. 02, 2023 00:00 UTC | On-line | Weight voting in progress

Place	Team	Country	Points
1	thehackerscrew		48.100
2	Tower of Hanol	IT	35.846
3	GBGGBG		30.083

Jeopardy-CTFs

Challenge Categories



Most of the time, challenges fall in one of these Categories

- Reverse engineering
- Binary exploitation
- Websecurity
- Cryptography
- Miscellaneous

Other categories can be

- Web3 (Smart contract security)
- Digital forensics
- Programming challenges
- Open-source intelligence gathering (OSINT)

How do Jeopardy-CTFs work?



FuzzyLand [FAQ](#) [Users](#) [Scoreboard](#) [Challenges](#) Register Login

misc

flag format 1	flagception 66	chess-base 75
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sead22

Schrei Stage 1 30	Schrei Stage 2 40	Insurance App - Stage 1 40	Insurance App - Stage 2 40
Human-Necrosis Mutation Tr. 40	Human-Necrosis Mutation Tr. 40	Totally Secure Drive 60	Hash Lottery 70
Black Box 70			

How do Jeopardy-CTFs work?



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misc

flag format

1

intro

- bob: What is a flag?
- alice: LosCTF{this_is_how_a_flag_looks_like}

Author: verr

Flag

Submit

sead22

Schrel Stage 1

30

Human-Necrosis Mutation Tr

40

Black Box

70

Insurance App - Stage 2

40

Hash Lottery

70

This screenshot shows a Jeopardy-style CTF interface. On the left, a sidebar lists categories: misc, sead22, and Insurance App - Stage 2. The misc category has a challenge titled 'flag format' worth 1 point. The challenge details page shows the question text, a list of hints (bob: What is a flag? and alice: LosCTF{this_is_how_a_flag_looks_like}), and a form to submit the answer. The sead22 category contains three challenges: 'Schrel Stage 1' (30 points), 'Human-Necrosis Mutation Tr' (40 points), and 'Black Box' (70 points). The Insurance App - Stage 2 category contains two challenges: 'Insurance App - Stage 2' (40 points) and 'Hash Lottery' (70 points).

How do Jeopardy-CTFs work?



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misc

flag format

1

intro

- bob: What is a flag?
- alice: LosCTF{this_is_how_a_flag_looks_like}

Author: verr

Submit

LosCTF{this_is_how_a_flag_looks_like}

40 60

sead22

Schrei Stage 1

30

Human-Necrosis Mutation Tr

40

Black Box

70

Insurance App - Stage 2

40

Hash Lottery

70

The screenshot shows a Jeopardy-style CTF interface. On the left, there's a sidebar with categories like 'misc' and 'sead22'. Under 'misc', there's a challenge titled 'flag format' worth 1 point. The challenge details page shows the question 'What is a flag?' and two answers: 'bob: What is a flag?' and 'alice: LosCTF{this_is_how_a_flag_looks_like}'. The author is listed as 'verr'. Below the challenge details, there are two boxes for submission: one containing the answer and another for the score (40 or 60). On the right, there are other challenges: 'Insurance App - Stage 2' (40 points) and 'Hash Lottery' (70 points).

How do Jeopardy-CTFs work?



FuzzyLand FAQ Users Scoreboard Challenges Notifications Profile Settings

misc

flag format

1

intro

- bob: What is a flag?
- alice: LosCTF[this_is_how_a_flag_looks_like]

Author: verr

Flag

Submit

Correct

sead22

Schrei Stage 1

30

Human-Necrosis Mutation Tr.

40

Black Box

70

Insurance App - Stage 2

40

Hash Lottery

70

The screenshot shows a Jeopardy-CTF interface. On the left, there's a sidebar with categories like 'misc' and 'sead22'. Under 'misc', there's a challenge titled 'flag format' worth 1 point. The challenge details mention an intro and two messages from users 'bob' and 'alice'. Below the challenge is a 'Flag' input field and a 'Submit' button. A green 'Correct' button is visible at the bottom of the challenge card. In the center, a modal window is open for the 'flag format' challenge, showing its title, points, intro, and the two messages. On the right, there are other challenges listed under 'sead22': 'Schrei Stage 1' (30 points), 'Human-Necrosis Mutation Tr.' (40 points), 'Black Box' (70 points), 'Insurance App - Stage 2' (40 points), and 'Hash Lottery' (70 points).

AD-CTFs

Challenge Categories



Every team gets a server with vulnerable services

Goals

- Fix the own services
- Exploit the other teams

Typical categories

- Reverse engineering
- Binary exploitation
- Websecurity

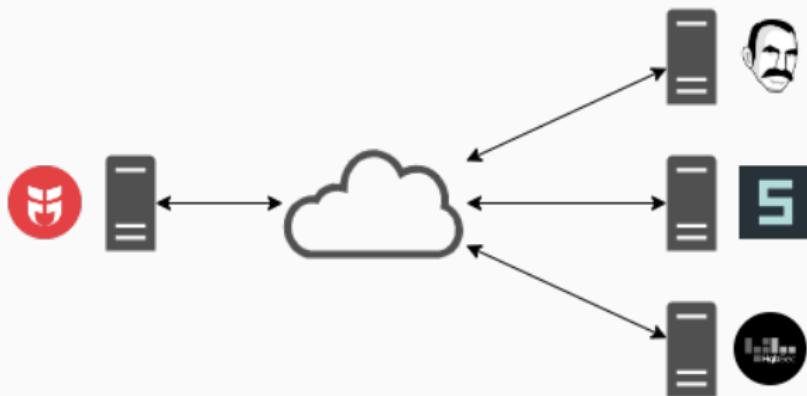
How do AD-CTFs work?



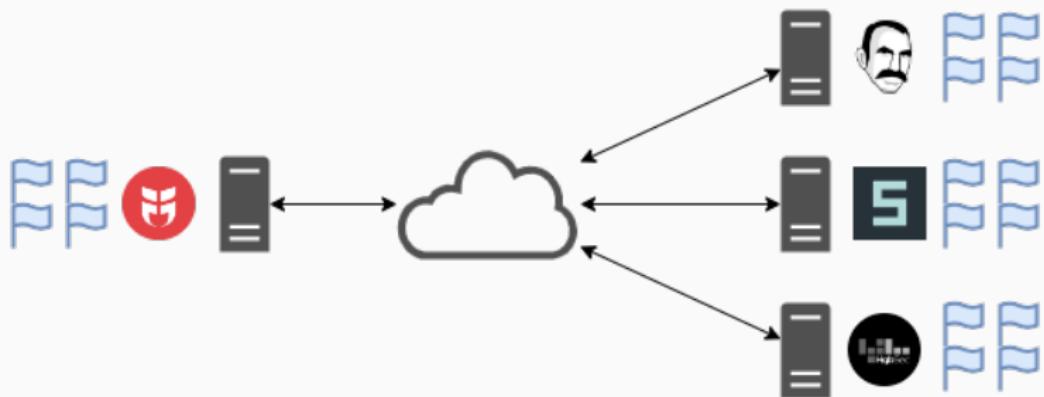
How do AD-CTFs work?



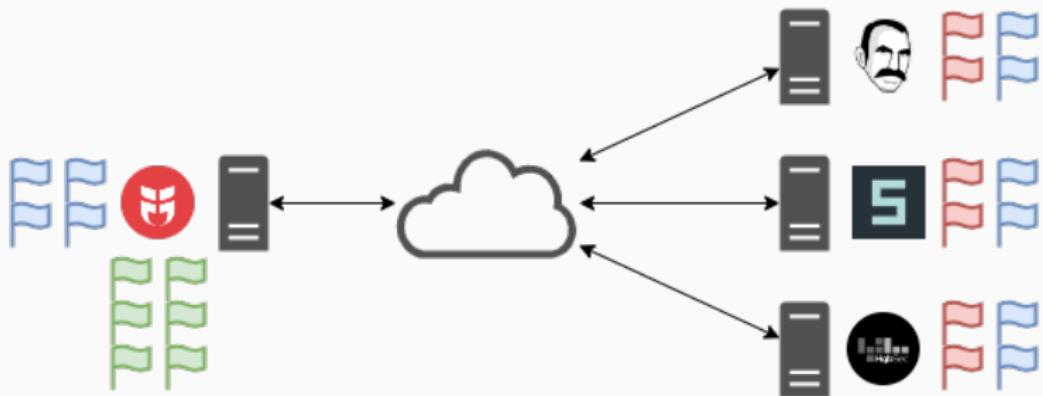
How do AD-CTFs work?



How do AD-CTFs work?



How do AD-CTFs work?



Introduction Challenges



We prepared some challenges for you to try out.

<https://fuzzy.land> in the section **Intro to CTFs**

- Buffer Overflow 0 (Binary exploitation)
- My first reversing challenge (Reverseengineering)
- Session Rookie (Websecurity)
- My first Contract (Web3, Blockchain)
- Superior roman cipher (Cryptography)
- Network Rookie (Websecurity, Forensics)

We have Linux USB Sticks