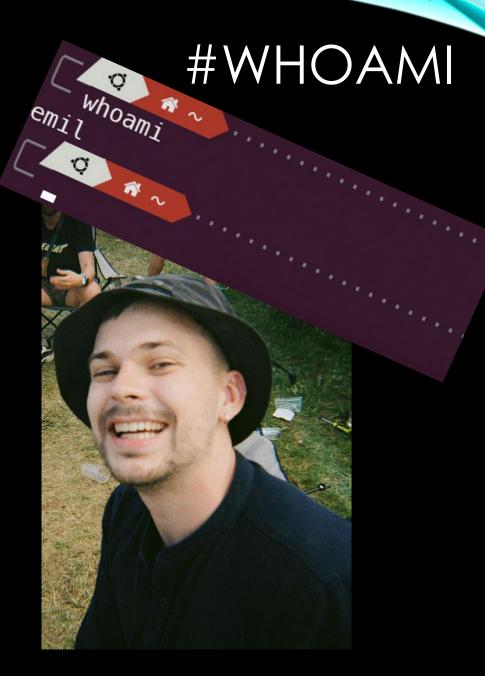


BUG BOUNTY HUNTING

At finde sårbarheder i systemer og blive betalt for det.

Pentester @ TDCNET

- Underviser i'Fundamentals of Cybersecurity'
 @ AAU
- Pentester certs (OSCP, OSCE3)
- Laver bug bounty i min fritid (Den her talk)
- Web security researcher.



OKAY MEN

- I Danmark er der meget få bughunters
- Det er rarere at have nogen at arbejde sammen med
- Flere hunters betyder flere programmer lanceret i Danmark (min hypotese)
- Relevant for applikationssikkerhedsjob
- Fordi bug bounty-hunting er sjovt!
- Fordi du kan tjene nogle penge, mens du studerer.



LETS GET STARTED

Bug bounty hunting involves finding and reporting vulnerabilities in software systems to earn rewards. It's a collaborative effort between researchers, middle-men and companies to improve security.



BUG BOUNTY AKTØRER



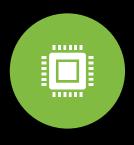
PLATFORME:

TREDJEPARTS SIDER
(E.G., HACKERONE,
BUGCROWD) SOM
FORBINDER
RESEARCHERE MED
VIRKSOMHEDER OG
AGERER
MELLEMMAND



PROGRAMMER:

VIRKSOMHEDER SOM TILBYDER DUSØRER FOR SIKKERHEDSHULLER I DERES IT SYSTEMER



RESEARCHERS:

ETISKE HACKERE, DER PROAKTIVT IDENTIFICERER OG RAPPORTERER SIKKERHEDSFEJL TIL GENGÆLD FOR BELØNNINGER OG ANERKENDELSE.



TRIAGERS:

SPECIALISTER (OFTE PLATFORMS- ELLER PROGRAMMEDARBE JDERE), DER VALIDERER, PRIORITERER OG MEDIERER SÅRBARHEDSRAPPO RTER TIL AFHJÆLPNING.



SECURITY TEAMS:

INTERNE TEAMS I ORGANISATIONER, DER RETTER RAPPORTEREDE SÅRBARHEDER OG IMPLEMENTERER LANGSIGTEDE RETTELSER.

BUG BOUNTY PLATFORME

- Der findes flere bug bounty-platforme, der letter programmer.
 - Disse platforme leverer al kommunikation, udbetaling, sårbarhedstriage osv. Mellem sikkerheds researchere og bug bounty-programmerne.
 - Disse platforme bliver betalt af program ejerne for at håndtere kommunikation og udbetaling
 - Alternativt betaler programmerne et gebyr oven på udbetalingerne

l1ackerone









BUG BOUNTY PROGRAM



BMW/BMW Group Automotive/Detail

Description

The BMW Group looks forward to working with the security community to find vulnerabilities in order to keep its products and customers safe and secure. We are committed to working with you to verify, reproduce, and respond to legitimate reported vulnerabilities covered by this policy. Within this program bounties can be received by reporting vulnerabilities that are in the scope of program and marked as "Eligible". Please take note of the current scope outlined below.

Bounties (i)

	Low 0.1 - 3.9	Medium 4.0 - 6.9	High 7.0 - 8.9	Critical 9.0 - 9.4	Exceptional 9.5 - 10.0
Tier 1 €	500	2,000	5,000	10,000	15,000
Tier 2 €	100	500	1,000	2,000	5,000

Leaderboard

Follow program ♥



Want to participate?

Feel free to join in, this is a public program

This program is publicly available to all researchers. Good luck and happy hunting!

Create submission

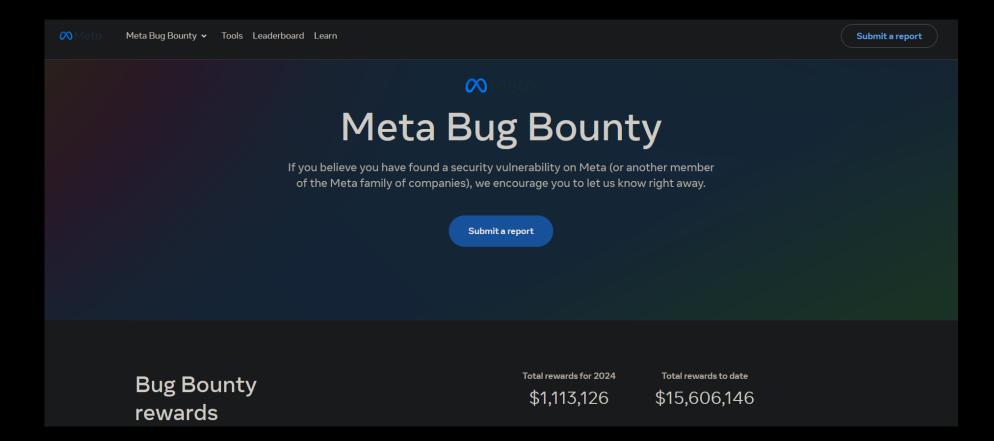
Ask scope question

View my submissions



BUG BOUNTY PLATFORME – DE STORE SPILLERE

• Store virksomheder som google, facebook, apple osv. Vær vært for deres egen bug bounty-platform.



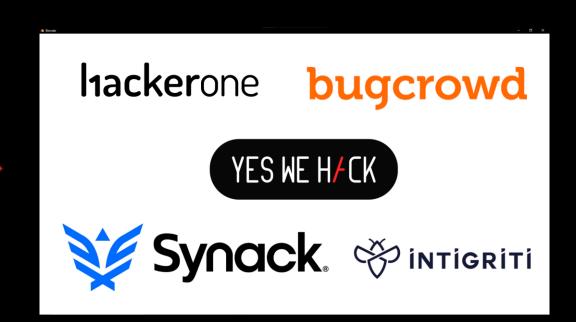


Starter ud med en sej **hacker** som gerne vil tjene en mønt på bug bounty

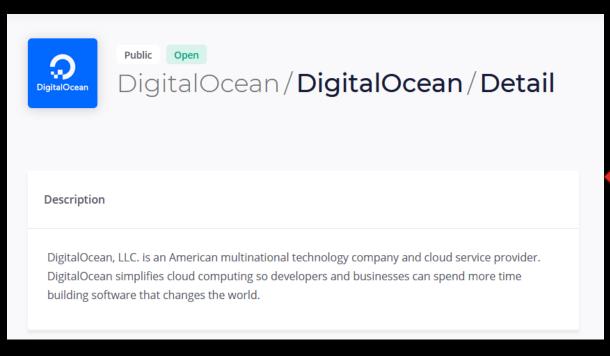


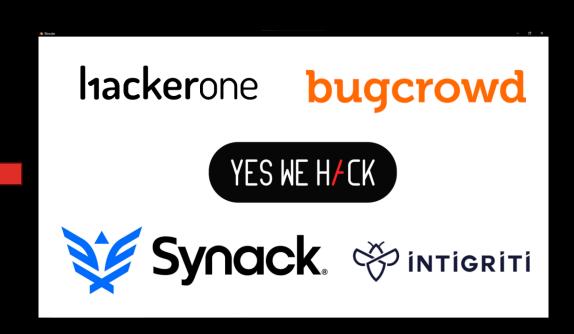
Okay det starter med en **security researcher** som gerne vil tjene en mønt på bug bounty hunting



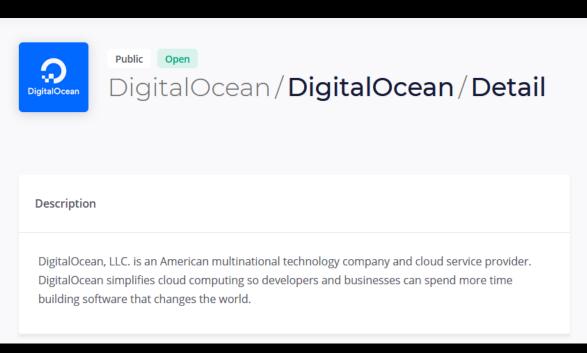


De tilmelder sig en af bug bounty-platformenes





De finder et program, de vil finde efter sårbarheder på



Safe harbour for researchers is applied

DigitalOcean considers ethical hacking activities conducted consistent with the Researcher Guidelines,

the Program description and restrictions (the Terms) to constitute "authorized" conduct under criminal law.

DigitalOcean will not pursue civil action or initiate a complaint for accidental, good faith violations,

nor will they file a complaint for circumventing technological measures used by us to protect the scope as part of your ethical hacking activities.

If legal action is initiated by a third party against you and you have complied with the Terms, DigitalOcean will take steps to make it known that your actions were conducted in compliance and with our approval.

Hide safe harbour ^

Researcheren accepterer 'Safe Harbor policy'

A "SAFE HARBOR" IS A PROVISION THAT OFFERS
PROTECTION FROM LIABILITY IN CERTAIN SITUATIONS,
USUALLY WHEN CERTAIN CONDITIONS ARE MET. IN THE
CONTEXT OF SECURITY RESEARCH AND VULNERABILITY
DISCLOSURE, IT IS A STATEMENT FROM AN
ORGANIZATION THAT HACKERS ENGAGED IN GOOD
FAITH SECURITY RESEARCH AND ETHICAL DISCLOSURE
ARE AUTHORIZED TO CONDUCT SUCH ACTIVITY AND
WILL NOT BE SUBJECT TO LEGAL ACTION FROM THAT
ORGANIZATION.

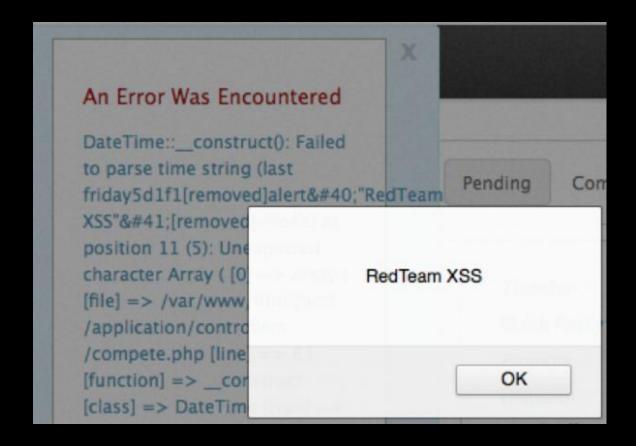
Hackerone Safe Harbor FAQ

 Researcheren ser, hvad der er inden for scope, og hvad der er uden for scope

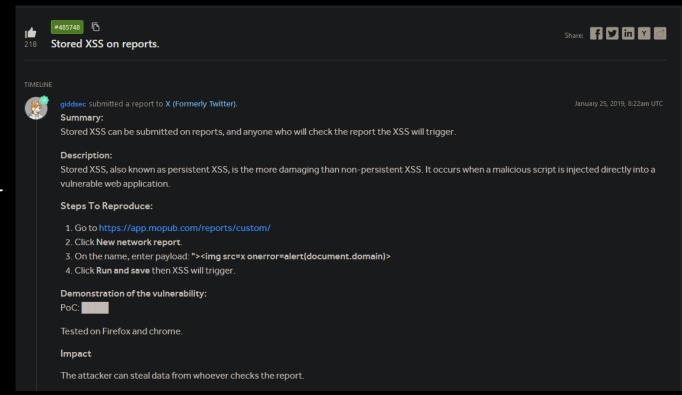
Domains ①			Give feedback >
TIER TYPE All ▼ All ▼		∀ Filter tex	t
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*.digitalocean.com ①	Tier 2 Wild	card	
			Show description \vee
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			Show description \vee
api.digitalocean.com ()	Tier 2 URL		
cloud.digitalocean.com ()	Tier 2 URL		
*.db.ondigitalocean.com () Out of	f scope Wild	card	Show description V
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Assets created by other DigitalOcean customers () Out of	Scope	er	
			Show description \vee

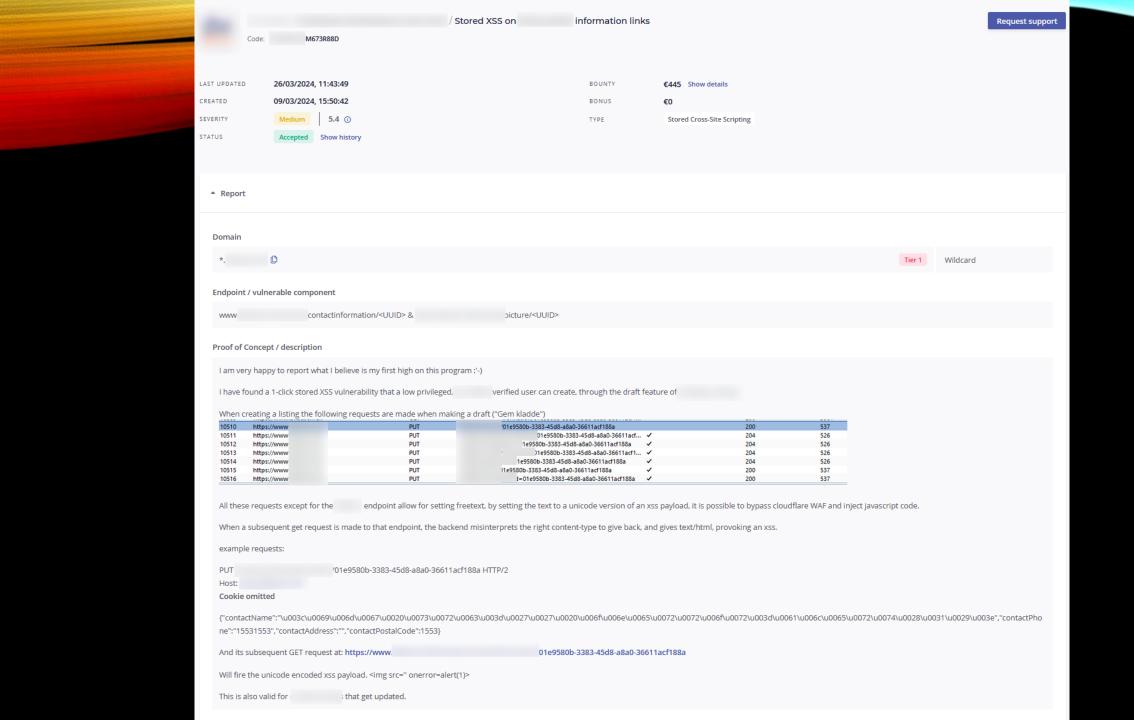
 Security researcheren finder så en sårbarhed som er I scope

 Det kunne være en stored xss sårbarhed



- Security researcheren skriver derefter en detaljeret rapport om sårbarheden
 - Dette er et kritisk skridt
 - Dette skal gøres så professionelt som muligt.
- Rapporten skal indeholde alt, hvad der er nødvendigt for at replikere og forstå virkningen
- Detaljeret proof of concept (POC)
 - Alle steps der skal tages for at reproducere
 - Forklar **impact** (hvad kan en ondsindet hacker gøre med denne sårbarhed)





RESTRICTED

Impact

An attacker can by tricking a user into clicking a link, fully perform actions as that user on this includes changing deleting etc.

More POC will follow shortly in the comments.

Recommended solution

It is recommended to force give back the content type as json for the mentioned.

Attachments

Download all attachments (5)

Show attachments v

IP address used for testing

Messages



Oxlime created the submission

09/03/2024, 15:50:42



Oxlime [researcher]

09/03/2024, 17:50:52 • edited at 09/03/2024, 17:52:08

I am adding some POCS to showcase impact.

The following endpoint will extract all the users information that is present at https://www.

to an external burp collaborator link. Please see the POC video.

https://www.

'2b28eb70-c765-4acf-b718-b5a332545a8a

The payload used was:

Since the script exists inline with no length restrictions, it is possible to query all sites on

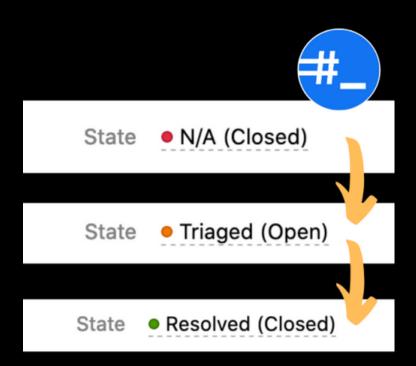
and extract information from them.

Read the report Merge with the main Is the report Yes report a duplicate? (include the additional extensive check information) End No Dismiss and tell the ls it an external user to report issue? downstream/upstream distribution or plugir End No Is the report Ask for more No complete information enough? Yes Request more No Can you information and reproduce? feedback Add your versions Wait for and conclusions develor Yes (new set of steps) to ch

HVORDAN? – RESEARCHERS PERSPEKTIV

- Triaging-teamet undersøger sårbarheden i rapporten
- Triagere arbejder for platformen (h1, intigriti ywh osv.)
- Triageren sikrer, at rapporten er gyldig, at problemet kan replikeres, og at sårbarheden er inden for scope
- Triageren giver også deres vurdering af den impact som sårbarheden har.

- Rapporten kan markeres på forskellige måder
- Duplicate
 - Problemet er bekræftet men nogen har allerede rapporteret det før. Der betales kun 1 gang per sårbarhed, så ingen dusør, men point i stedet.
- Out of scope / Not applicable
 - Sårbarheden er uden for scope og derfor ikke kvalificeret til en dusør
- Needs more information
 - Triageren har læst rapporten men muligvis ikke replicere, eller der mangler detaljer
- Accepted / Triaged
 - Triageren har repliceret sårbarheden, givet sit besyv på impact og sendt videre til program ejeren.

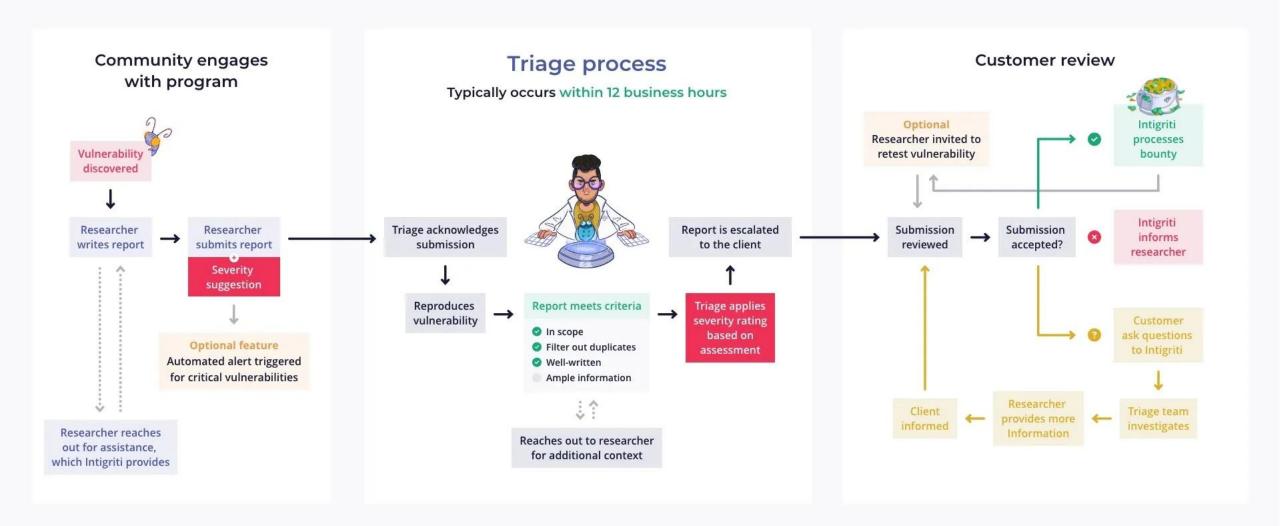


- Program manageren modtager herefter rapporten
- De undersøger internt og vurderer hvor slemt det står til
 - Man bruger ofte CVSS3 til at hjælpe med at vurdere hvor slemt det er
- Hvis sårbarheden er godkendt og det er et betalende bug bounty program, bliver der registreret en betaling til researcheren
 - Nogle platforme tager et cut ud over dusøren
- Sårbarheden er nu kendt af virksomheden og vil (eller ikke) blive fixet
- Nogle programmer henvender sig til researcheren efter et fix og beder om en betalt gentest
- Lav impact sårbarheder kan markeres som Accepteret risiko
 - Virksomheden vurderer at det ikke er en vigtig sårbarhed og vil derfor ikke gøre noget





Intigriti triage process





- Researcheren modtager endelig en udbetaling
- Derudover modtager researcheren Reputation points
- Jo flere point en researcher har, jo større chance er der for, at de bliver inviteret til at deltage i **private bug bounty programmer**
 - Det er fedt at blive inviteret til private programmer fordi udbetalingerne ofte er højere og der er mindre konkurrence
 - Dog er der flere dygtige researchere på de private programmer.
- Programmer kan være private af flere årsager:They want to minimize the amount of researchers
 - De ønsker kun baggrundsverificerede researchere.
 - De ønsker ikke så mange researchere ad gangen.
 - De ønsker at målrette mod en bestemt researcher gruppe (nationalitet, ekspertise osv.)



UDBETALINGSMETODE, SKAT OG DIG

- Mange forskellige måder at udbetale på
 - PayPal
 - Bankoverførsel
 - Coinbase (bitcoin)
 - Payoneer
 - Fakturering
- Du skal registrere disse udbetalinger som indkomst, hvis du skal betale dansk skat.
- Ikke rigtig ideelt at gøre over PayPal, når du kommer forbi et bestemt beløb
- Jeg har et registreret ApS nu og en revisor til at tage mig af det



SÅ DET HACKE TID



FORSKELLIGE TILGANGE – RECON-BASERET TILGANG

- Målsætning: Brug rekognosceringsværktøjer til at finde så meget information som muligt om dit mål
- Hvorfor? Security through obscurity/
 - Udviklere kan lægge en eller anden test/admin/følsom funktion på et websted, men antage "Ingen vil finde dette"
- Hvad skal man kigge efter?
 - Subdomains (Staging og test miljøer, admin.example.com)
 - Ikke-offentlige endpoints (/api/v1/test_admin_auth/auth/user)
 - Ikke-offentlige funktionalitet
 - Ikke-offentlige parametere
 - Gammel funktionalitet (Hvad plejede der at ligge på hjemmesiden, hvilken gammel funktionalitet findes måske stadigvæk?)
- Gammel funktionalitet er oftere mere sårbar, man lavede bare skod kode før i tiden
- Det her er en tilgang som bedst fungerer 'at scale' så det skal automatiseres



RECON VÆRKTØJER

- Subdomains
 - crt.sh Certificate transparancy
 - Shodan internet search engine
 - Sublister project discovery
- Javascript analyse
 - Jswzl paid
- Subdirectory enumeration
 - Fuff
 - Gobuster
- Parameter identification
 - Param miner burpsuite plugin
- Links
 - Waymore
 - GAU



https://github.com/projectdiscovery

PROJECTDISCOVERY ER





Pinned

nuclei (Public)

Nuclei is a fast, customizable vulnerability scanner powered by the global security community and built on a simple YAML-based DSL, enabling collaboration to tackle trending vulnerabilities on the ...

Go ☆ 22.2k ♀ 2.6k

nuclei-templates (Public

Community curated list of templates for the nuclei engine to find security vulnerabilities.

JavaScript ☆ 9.7k ♀ 2.7k

subfinder (Public)

Fast passive subdomain enumeration tool.

Go ☆ 11.2k ♀ 1.3k

httpx (Public)

httpx is a fast and multi-purpose HTTP toolkit that allows running multiple probes using the retryablehttp library.

naabu (Public)

A fast port scanner written in go with a focus on reliability and simplicity. Designed to be used in combination with other tools for attack surface discovery in bug bounties and pentests

Go ☆ 5k ♀ 574

cvemap (Public

Navigate the CVE jungle with ease.

● Go ☆ 1.9k ¥ 127

FORSKELLIGE TILGANGE – DYK DYBT NED I FUNKTIONALITET

- Målsætning: Forstå målet så godt, at modstridende funktionalitet bliver tydelig, målet er at finde logiske fejl.
- Hvorfor? Logiske fejl kan være de mest alvorlige sårbarheder, der bryder fortrolighed eller integritet.
- Hvordan gør man?
 - Brug applikationen normalt i noget tid
 - Observer og gem alle http requests og responses som bliver sendt frem og tilbage.
 - Hvilke teknologier kan det ses der bliver brugt (python flask, java spring?)
 - Hvordan fejler applikationen?
 - Hvordan ser auth modellen ud?
- Denne tilgang er mere manuel



OG HVORDAN LÆRER MAN DET?

Jeg vil bare pege på portswigger academy her

SQL injection

SQL injection is an old-but-gold vulnerability responsible for many high-profile data breaches. Although relatively simple to learn, it can potentially be used for some high-severity exploits. This makes it an ideal first topic for beginners, and essential knowledge even for more experienced users.

Go to topic →

Authentication

Go to topic → 14 Labs

Path traversal

Go to topic → 6 Labs

Command injection

Go to topic → 5 Labs

Business logic vulnerabilities

Go to topic → 11 Labs

Information disclosure

Go to topic → 5 Labs

Access control

Go to topic → 13 Labs

File upload vulnerabilities

Go to topic →

7 Labs

Race conditions

Go to topic → 6 Labs



HVOR KAN MAN ØVE SIG OG FÅ VIDEN

- Spil CTF
 - Fokus på web kategorien
- Spil Hackthebox
 - Web kategorien igen eller boxe der er heavy på web
- Portswigger academy
 - Absolut bedste ressource til at lære om web sårbarheder
- Certifications
 - Ofte ret dyrt, men det er en motivator for nogen at have en eksamen man skal klare
- Offentliggjorte bug bounty rapporter
 - Find offentliggjorte rapporter på h1 osv. og lær af dem

ANDRE RESSOURCER



Critical Thinking Bug bounty podcast

Super teknisk podcast om hacking

Q

Hacktricks

Min go-to side for hacking tips og fremgangsmåder



Web application hackers handbook

Af Dafydd Stuttard og Marcus Pinto

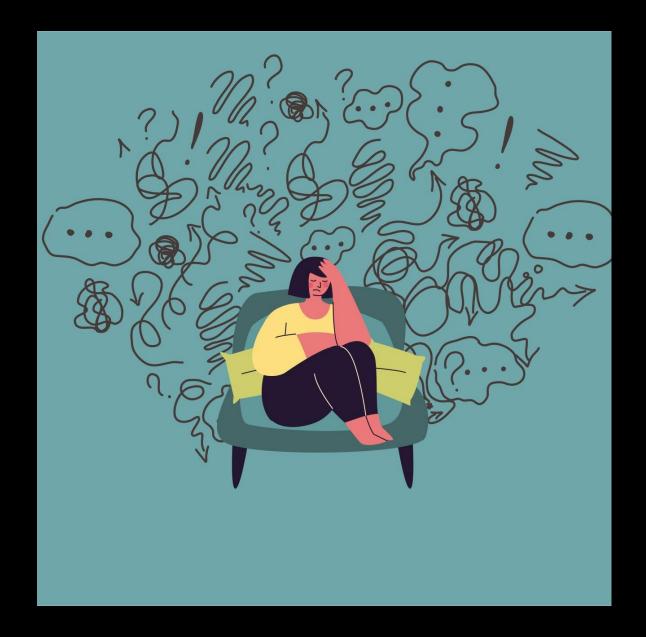


The daily swig blog

Portswiggers cybersikkerhed nyhedsblog

ET ORD OM SUND BUG BOUNTY MENTALITET

- At finde en sårbarhed er super dope og en fantastisk følelse
- Prøv dog at fatte dig selv og ikke blive alt for begejstret
 - Det kan være en duplicate
 - Virksomheden kan presse impact ned og ikke betale det du synes er rimeligt
 - Muligvis kan virksomheden argumentere det er out of scope
- Indarbejd en "Submit and forget" mentalitet
 - Send rapporten ind, besvar spørgsmål, men prøv at glemme det
- Du kan fejre når du får en bounty tildelt til udbetaling
 - Det er dog sundest at ikke tænke for meget over sine potentielle dusører



Request Response Ø 🚍 /n ≡ \n ≡ Pretty Raw Hex Pretty Render PATCH /api/collab/users/45400 HTTP/1.1 HTTP/1.1 200 OK Access-Control-Allow-Origin: * Host: Cache-Control: no-cache, no-store, max-age=0, must-revalidate Content-Length: 59 Sec-Ch-Ua: "Not/A)Brand"; v="8", "Chromium"; v="126", "Google Chrome"; v="126" Content-Type: application/json Sec-Ch-Ua-Mobile: ?0 Date: Mon, 08 Jul 2024 11:52:43 GMT Authorization: Bearer Expires: 0 Pragma: no-cache Server: Caddy Server: Skipper Strict-Transport-Security: max-age=31536000 ; includeSubDomains 11 User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, origin,access-control-request-method,access-control-request-headers,accept-encodin like Gecko) Chrome/126.0.0.0 Safari/537.36 Content-Type: application/json X-Content-Type-Options: nosniff Accept: application/json, text/plain, */* X-Frame-Options: DENY 14 X-Xss-Protection: 1; mode=block X-Frontend-Type: browser Sec-Ch-Ua-Platform: "Windows" Content-Length: 862 Origin: https://app.collabary.com 16 Sec-Fetch-Site: same-site 17 Sec-Fetch-Mode: cors "id":45400, "email":" Sec-Fetch-Dest: empty @gmail.com", "password hash": "\$2a\$08\$jv Referer: https://app.collabary.com/ Accept-Encoding: gzip, deflate, br "created at": "2024-07-06T13:29:05.300696Z", Accept-Language: en-US, en; q=0.9 "updated at": "2024-07-06T13:29:05.300697Z", Priority: u=1, i "password_reset_token":null, Connection: keep-alive "password reset token expiration date":null, "login count":1, "first name": "a", "first name": "a". "last_name": "aad", "last name": "aad", "phone": "+45 33224421", "phone": "+45 33224421" "preferred_language":"en", "activation token": "74bd2c14b04 "activation token expiration date": "2024-08-05T13:29:05.3007112", "admin granted by":null, "admin": false, "uuid": "3b6d5627-a692-4b20-916f-2f35a5462455", "position":null, "deleted at":null. Search 0 highlights Search 0 highlights

Done



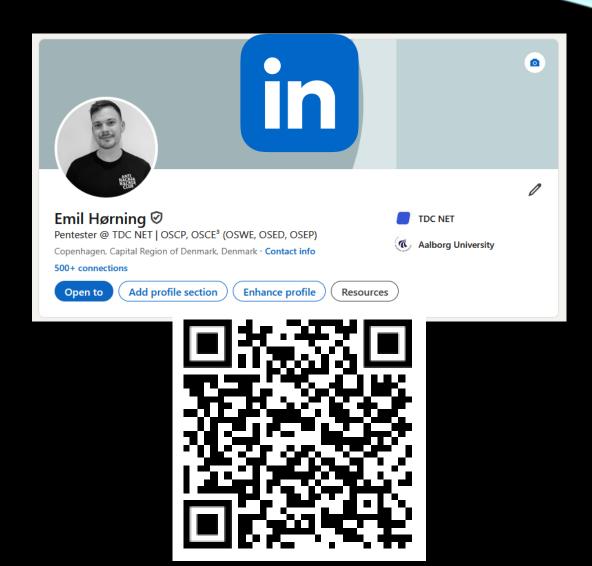
Zalando SE / Zalando Bug Bounty / IDOR leads to mass user info leakage

Code: ZALANDO-5P9FB2LU

LAST UPDATED 25/07/2024, 02.00.00 BOUNTY €0 08/07/2024, 13.53.43 €0 CREATED BONUS 9.1 ③ Insecure Direct Object Reference Critical TYPE SEVERITY ZALANDO-2BSHY1KA Show details Archived / Duplicate Show history DUPLICATE OF STATUS

"Every bug is a story waiting to be told, and every bounty is a reward for the relentless pursuit of digital truth."

QUESTIONS ș



** Add mig på Linkedin **