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CYBER TALENTS

Challenge Name: Hidden Message

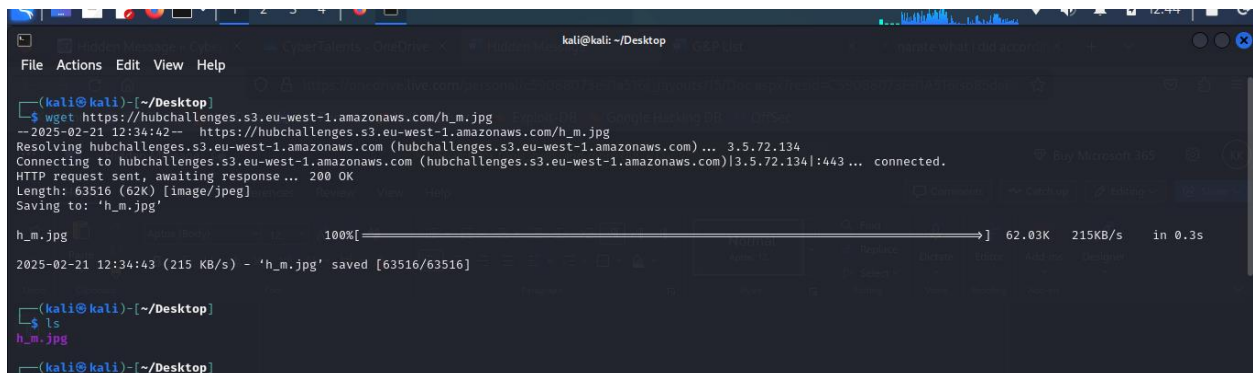
Category: Digital Forensics

Challenge Description

A cyber-Criminal is hiding information in the below file. capture the flag? **submit Flag in MD5 Format**

Solution

I started by using the **wget** command line tool to download an image from a specified URL. After the download, I wanted to confirm that the file was indeed saved. I used the **ls** command to list the files in my current directory, and the output showed that **h_m.jpg** was present on my Desktop.



```
kali@kali: ~/Desktop
File Actions Edit View Help

(kali@kali)~/Desktop
$ wget https://hubchallenges.s3.eu-west-1.amazonaws.com/h_m.jpg
--2025-02-21 12:34:42-- https://hubchallenges.s3.eu-west-1.amazonaws.com/h_m.jpg
Resolving hubchallenges.s3.eu-west-1.amazonaws.com (hubchallenges.s3.eu-west-1.amazonaws.com) ... 3.5.72.134
Connecting to hubchallenges.s3.eu-west-1.amazonaws.com (hubchallenges.s3.eu-west-1.amazonaws.com)|3.5.72.134|:443 ... connected.
HTTP request sent, awaiting response ... 200 OK
Length: 63516 (62K) [image/jpeg]
Saving to: 'h_m.jpg'

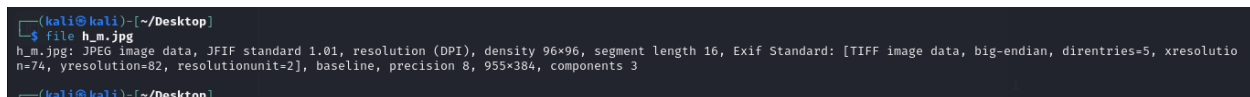
h_m.jpg                               100%[=====] 62.03K 215KB/s in 0.3s

2025-02-21 12:34:43 (215 KB/s) - 'h_m.jpg' saved [63516/63516]

(kali@kali)~/Desktop
$ ls
h_m.jpg

(kali@kali)~/Desktop
```

To understand more about the downloaded file, I ran the **file** command on **h_m.jpg**. This revealed that the file was a **JPEG** image, providing additional details such as its resolution and Exif data.



```
(kali@kali)~/Desktop
$ file h_m.jpg
h_m.jpg: JPEG image data, JFIF standard 1.01, resolution (DPI), density 96x96, segment length 16, Exif Standard: [TIFF image data, big-endian, direntries=5, xresolution=74, yresolution=82, resolutionunit=2], baseline, precision 8, 955x384, components 3

(kali@kali)~/Desktop
```

I then attempted to search for any potential flags within the image file. I used the **strings**

```
(kali㉿kali)-[~/Desktop]
$ strings h_m.jpg | grep "flag"
```

```

kali@kali:~/Desktop$ exiftool h_m.jpg
ExifTool Version Number      : 12.76
File Name                    : h_m.jpg
Directory                   : .
File Size                    : 64 kB
File Modification Date/Time  : 2024:09:22 15:28:18+00:00
File Access Date/Time       : 2025:02:21 12:34:43+00:00
File Inode Change Date/Time  : 2025:02:21 12:34:43+00:00
File Permissions             : -rw-rw-r--
File Type                    : JPEG
File Type Extension          : jpg
MIME Type                    : image/jpeg
JFIF Version                 : 1.01
Exif Byte Order              : Big-endian (Motorola, MM)
X Resolution                 : 96
Y Resolution                 : 96
Resolution Unit              : inches
Y Cb Cr Positioning          : Centered
Exif Version                 : 0232
Components Configuration     : Y, Cb, Cr, -
User Comment                 : blaiF2855d2428930e0c9c4ce10500d5
Flashpix Version             : 0100
Color Space                  : Uncalibrated
Image Width                 : 955
Image Height                 : 384
Encoding Process             : Baseline DCT, Huffman coding
Bits Per Sample             : 8
Color Components             : 3
Y Cb Cr Sub Sampling         : YCbCr4:2:0 (2 2)
Image Size                  : 955x384
Megapixels                  : 0.367

```

[illegible]