

Steganography

Steganography involves hiding information within another file, such as an image or audio file, without significantly altering its appearance or properties. Below is a practical guide to performing steganography in Kali Linux using **Steghide**.

1. Steganography with Steghide

Step 1: Install Steghide

If not already installed, install Steghide:

- `sudo apt install steghide`
[generated error first update the files: `sudo apt-get update -y`]

Step 2: Create a Hidden Message

```
(kali@kali)-[~]  
$ echo " This is my hidden message" > secret.txt
```

- `cat secret.txt`
- `ls`

```
(kali@kali)-[~]  
$ ls  
5_1.sh  6_4.sh  arraytest.sh  commfile1.txt  employee.txt  morefile.txt  outputsort.txt  prgl.sh  sortfile.txt  trfl  
5_2.sh  6_5.1.sh  a.txt         commfile2.txt  emp.txt       Music          pl.sh           private.keyfile  sortlist.txt  typescript  
5_3.sh  6_5.sh   bigfile.txt  cpdir          encrypted.txt  mvfdr         parul           private.pem      sortoutputfile.txt  uniqfile.txt  
5_3.sh  7_1.sh   b.txt        crack.txt      fgrepfile.txt  myfile.txt    paruluniversity.txt  Public          state.txt        unsortfile.txt  
5_4.sh  7_2.sh   capital.txt  decrypted.txt  google.com     myfirstscript.sh  pass.txt        public.keyfile    temp           var.sh  
5_5.sh  7_3.sh   car          Desktop        hashfile.txt   namelist.txt   Pictures        Templates        test1.sh       Videos  
5_5.sh  7_4.sh   carlist.txt  difffile1.txt  kt             nmapfile.txt   plaintext.file   record_data.txt  testscript.sh  wfile.txt  
6_1.sh  7_5.sh   chmodtest.txt  difffile2.txt  modetest.txt  numberunsortfile.txt  plaintext.txt    scanme.nmap.org  test.sh  
6_2.sh  8.sh    cmpfile1.txt  Documents      monthlist.txt  odfile.txt     pr1.sh          secret.txt       test.sh  
6_3.sh  add.sh   cmpfile2.txt  Downloads      month.txt      outputfile.txt  prfile.txt      sedfile.txt      trfile.txt
```

Step 3: Hide the Message

```
(kali㉿kali)-[~]  
$ steghide embed -cf secreting.jpg -ef secret.txt  
Enter passphrase:  
Re-Enter passphrase: employee.txt encrypted.txt  
embedding "secret.txt" in "secreting.jpg" ... done
```

[note password:12345]

Step 4: remove the secret.txt file

➤ ls

```
(kali㉿kali)-[~]  
$ ls  
5_1.sh 6_4.sh arraytest.sh commfile1.txt employee.txt morefile.txt outputsort.txt prgl.sh sortfile.txt trfl  
5_2.sh 6_5.1.sh a.txt commfile2.txt emp.txt Music pl.sh private.keyfile sortlist.txt typescript  
5_3.sh 6_5.sh bigfile.txt cpdir encrypted.txt mvldr parul private.pem sortoutputfile.txt uniqfile.txt  
5_3.sh 7_1.sh b.txt crack.txt fgrepfile.txt myfile.txt paruluniversity.txt Public state.txt unsortfile.txt  
5_4.sh 7_2.sh capital.txt decrypted.txt google.com myfirstscript.sh pass.txt public.keyfile temp Templates Videos  
5_5.sh 7_3.sh car hashfile.txt namelist.txt pwd.txt record_data.txt test1.sh wcfile.txt  
5_5.sh 7_4.sh carlist.txt difffile1.txt kt modetest.txt numberunsortfile.txt plaintext.txt scanme.nmap.org testscript.sh  
6_1.sh 7_5.sh chmodetest.txt difffile2.txt monthlist.txt odfile.txt prl.sh prfile.txt secreting.jpg test.sh  
6_2.sh 8.sh cmpfile1.txt Documents month.txt outputfile.txt prfile.txt sedfile.txt trfile.txt  
6_3.sh add.sh cmpfile2.txt Downloads month.txt outputfile.txt prfile.txt sedfile.txt trfile.txt
```

Step 5: Information about image with secret message mapped

```
(kali㉿kali)-[~]  
$ steghide --info secreting.jpg  
"secreting.jpg":  
  format: jpeg  
  capacity: 632.0 Byte  
Try to get information about embedded data ? (y/n) y  
Enter passphrase:  
  embedded file "secret.txt":  
    size: 27.0 Byte  
    encrypted: rijndael-128, cbc  
    compressed: yes
```

Step 6: Extract the Hidden Message

```
(kali㉿kali)-[~]  
$ steghide --extract -sf secreting.jpg  
Enter passphrase:  
wrote extracted data to "secret.txt".
```

Step 7: secret.txt file extract behind the hidden message

```
(kali@kali)-[~]
└─$ ls
5_1.sh  6_4.sh  arraytest.sh  commfile1.txt  employee.txt  morefile.txt  outputsort.txt  prg1.sh  sedfile.txt  trfile.txt
5_2.sh  6_5.1.sh  a.txt         commfile2.txt  emp.txt      Music         pl.sh          private.keyfile  sortfile.txt  trfl
5_3.sh  6_5.sh   bigfile.txt   cpdir          encrypted.txt mvfdr         parul         private.pem      sortlist.txt   typescript
5_3.sh  7_1.sh   b.txt         crack.txt      fgrepfile.txt myfile.txt    paruluniversity.txt  Public        sortoutputfile.txt  uniqfile.txt
5_4.sh  7_2.sh   capital.txt   decrypted.txt  google.com   myfirstscript.sh  pass.txt      public.keyfile    state.txt     unsortfile.txt
5_5.sh  7_3.sh   car          Desktop        hashfile.txt namelist.txt   Pictures      pwd.txt          temp         var.sh
5_5.sh  7_4.sh   carlist.txt  difffile1.txt  kt           nmapfile.txt   plaintext.file  record_data.txt  Templates    Videos
6_1.sh  7_5.sh   chmodetest.txt  difffile2.txt  modetest.txt  numberunsortfile.txt  plaintext.txt  scanme.nmap.org  test1.sh     wcfile.txt
6_2.sh  8.sh    cmpfile1.txt  Documents      monthlist.txt odfile.txt      pr1.sh        secreting.jpg    testscript.sh
6_3.sh  add.sh   cmpfile2.txt  Downloads      month.txt     outputfile.txt  prfile.txt    secret.txt       test.sh
```

Step 8: See the secret message file

```
(kali@kali)-[~]
└─$ cat secret.txt
This is my hidden message
```