

Network Security Assignment #2

Written Assignment-1

1. What is the difference between a binary file and a text file?

Ans: All Files can be categorized into two formats

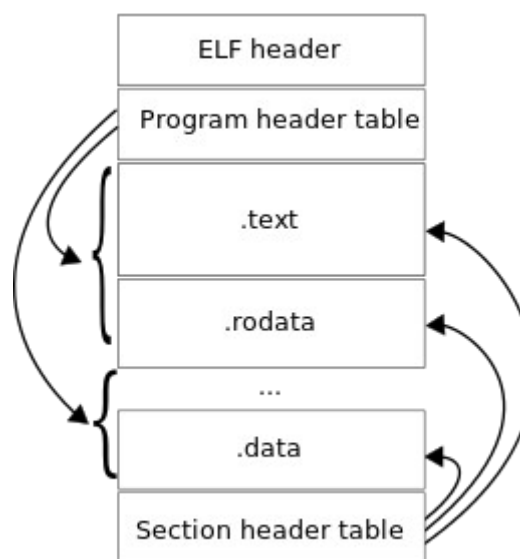
- a.Binary
- b.Text Files

The Bits in text files represent characters whereas the bits in binary files represents custom data. A .png file,.exe file ,.mp4 file are all binary files, The bits inside the binary file are modified and stored according to user requirements and are identified by application programs by recognising their file signatures.

Text Files are relatively simple Text files are more restrictive than binary files since they can only contain textual data. However, unlike binary files, they are less likely to become corrupted. While a small error in a binary file may make it unreadable, a small error in a text file may simply show up once the file has been opened.

2.What is the ELF FILE Format? 2. What is a hexdump?

Ans: ELF stands for executable and linkable file format.ELF is used as standard file format for executables, object code, shared libraries, and core dump. ELF is a binary format originally developed by USL (UNIX System Laboratories) and currently used in Solaris and System V Release 4. Because of its increased flexibility over the older a.out format that Linux previously used, the GCC and C library developers have moved to using ELF as the Linux standard binary format also.



Hexdump:

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Hexdump is the Hexadecimal View of the data that the computer stores in its memory. Each and every file has a hexdump value and it is stored. In a hex dump, each byte is represented as a two-digit hexadecimal number. Hex dumps are commonly organized into rows of 8 or 16 bytes, sometimes separated by whitespaces. Some hex dumps have the hexadecimal memory address at the beginning and/or a checksum byte at the end of each line.

Hexadecimal View of Hello File

```
sudip@sudip-HP-Pavilion-g6-Notebook-PC:~/Desktop/Assignments/new$ hexdump hello
00000000 457f 464c 0102 0001 0000 0000 0000 0000
00000010 0002 003e 0001 0000 0110 0040 0000 0000
00000020 0040 0000 0000 0000 0168 0000 0000 0000
00000030 0000 0000 0040 0038 0003 0040 0005 0004
00000040 0001 0000 0005 0000 0000 0000 0000 0000
00000050 0000 0040 0000 0000 0000 0040 0000 0000
00000060 0132 0000 0000 0000 0132 0000 0000 0000
00000070 0000 0020 0000 0000 0001 0000 0006 0000
00000080 0134 0000 0000 0000 0134 0060 0000 0000
00000090 0134 0060 0000 0000 0009 0000 0000 0000
000000a0 0009 0000 0000 0000 0000 0020 0000 0000
000000b0 0004 0000 0004 0000 00e8 0000 0000 0000
000000c0 00e8 0040 0000 0000 00e8 0040 0000 0000
000000d0 0024 0000 0000 0000 0024 0000 0000 0000
000000e0 0004 0000 0000 0000 0004 0000 0014 0000
000000f0 0003 0000 4e47 0055 4013 bf4b dce3 3c8f
00001000 c9c9 3e8e 8a53 fc9a 4146 3ee2 0000 0000
00001100 09ba 0000 b900 0134 0060 01bb 0000 b800
00001200 0004 0000 80cd 00bb 0000 b800 0001 0000
00001300 80cd 0000 5542 5453 4445 000a 732e 7368
00001400 7274 6174 0062 6e2e 746f 2e65 6e67 2e75
00001500 7562 6c69 2d64 6469 2e00 6574 7478 2e00
00001600 6164 6174 0000 0000 0000 0000 0000 0000
00001700 0000 0000 0000 0000 0000 0000 0000 0000
*
00001a00 0000 0000 0000 000b 0000 0007 0000 0002
00001b00 0000 0000 0000 00e8 0040 0000 0000 00e8
00001c00 0000 0000 0000 0024 0000 0000 0000 0000
00001d00 0000 0000 0000 0004 0000 0000 0000 0000
00001e00 0000 0000 0000 001e 0000 0001 0000 0006
00001f00 0000 0000 0000 0110 0040 0000 0000 0110
00002000 0000 0000 0000 0022 0000 0000 0000 0000
00002100 0000 0000 0000 0010 0000 0000 0000 0000
00002200 0000 0000 0000 0024 0000 0001 0000 0003
00002300 0000 0000 0000 0134 0060 0000 0000 0134
00002400 0000 0000 0000 0009 0000 0000 0000 0000
00002500 0000 0000 0000 0004 0000 0000 0000 0000
00002600 0000 0000 0000 0001 0000 0003 0000 0000
00002700 0000 0000 0000 0000 0000 0000 013d
00002800 0000 0000 0000 002a 4400 4145 4244 4545
```

3. What kind of information is stored in a hexdump?

Ans: There are many additional options which can be used alongside hexdump to display the hexdump value according to user choice. The hexdump command is one utility which has many options to view the hexdump in many versions, like -c allows us to see the ASCII values. Typically a hexdump is something which just shows us how the data is represented in memory so, it stores no information, it is just a window to see the memory information of a file, how it is stored.

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4. Diagrammatically represent how the hex characters “DEADBEEF” will be represented in Big Endian and Little Endian formats.

Ans:

DEADBEEF Hex Value-- 4445414442454546

BIG-ENDIAN FORMAT

ADDRESS	VALUE
1001	44
1002	45
1003	41
1004	44
1005	42
1006	45
1007	45
1008	46

LITTLE-ENDIAN FORMAT

ADDRESS	VALUE
1001	46
1002	45
1003	45
1004	42
1005	44
1006	41
1007	45
1008	44