```
ELF Header:
  Magic:
           7f 45 4c 46 02 01 01 00 00 00 00 00 00 00 00 00
                                        FLF64
  Class:
  Data:
                                        2's complement, little endian
  Version:
                                        1 (current)
  OS/ABI:
                                        UNIX - System V
  ABI Version:
                                        EXEC (Executable file)
  Type:
                                        Advanced Micro Devices X86-64
  Machine:
  Version:
                                        0 \times 1
  Entry point address:
                                        0×4004d0
  Start of program headers:
                                        64 (bytes into file)
  Start of section headers:
                                        4520 (bytes into file)
  Flags:
  Size of this header:
                                        64 (bytes)
  Size of program headers:
                                        56 (bytes)
  Number of program headers:
                                        9
  Size of section headers:
                                        64 (bytes)
  Number of section headers:
  Section header string table index: 27
Section Headers:
  [Nr] Name
                           Type
                                             Address
                           EntSize
       Size
                                             Flags
                                                     Link Info Align
   01
                                             00000000000000000
                                                                00000000
                           NULL
       00000000000000000
                           00000000000000000
                                                        0
                                                              0
   1]
                           PROGBITS
                                             0000000000400238
                                                                 00000238
       .interp
       000000000000001c
                           00000000000000000
                                                        0
                                                               Ø
                                                                     1
                                                                 00000254
                                             0000000000400254
   2] .note.ABI-tag
                           NOTE
       000000000000000020
                           00000000000000000
                                                        0
  [ 3] .note.gnu.bu[ ... ] NOTE
                                             0000000000400274
                                                                 00000274
       00000000000000024
                           00000000000000000
                                                        0
                                                               0
                                                                     4
  [ 4] .gnu.hash
                           GNU HASH
                                             0000000000400298
                                                                 00000298
       000000000000001c
                           00000000000000000
                                                        5
                                                              0
                                                                     8
                                             00000000004002b8
                                                                 000002b8
  [ 5] .dynsym
                           DYNSYM
       00000000000000090
                           00000000000000018
                                                        6
                                                               1
                                                                     8
    6] .dynstr
                           STRTAB
                                             0000000000400348
                                                                 00000348
       0000000000000004b
                           00000000000000000
                                                        0
                                                              0
                                                                     1
  [ 7] .gnu.version
                                                                 00000394
                           VERSYM
                                             0000000000400394
                           000000000000000002
       0000000000000000c
                                                        5
                                                              0
                                                                 000003a0
      .gnu.version_r
                           VERNEED
                                             00000000004003a0
       00000000000000020
                           00000000000000000
                                                        6
                                                              1
                                                                     8
                                             00000000004003c0
                                                                 000003c0
  [ 9] .rela.dyn
                           RELA
       0000000000000018
                           00000000000000018
                                                        5
                                                               0
                                                                     8
                                             00000000004003d8
  [10] .rela.plt
                           RELA
                                                                 000003d8
       00000000000000078
                           00000000000000018
                                                        5
                                                             12
                                                                     8
  [11] .init
                                             0000000000400450
                                                                 00000450
                           PROGBITS
       0000000000000001a
                           00000000000000000
                                                        0
                                              AX
                                                              0
                                                                     4
  [12] .plt
                           PROGBITS
                                             0000000000400470
                                                                 00000470
       00000000000000060
                           00000000000000010
                                              ΑX
                                                        0
                                                               0
                                                                     16
  [13] .text
                           PROGBITS
                                             00000000004004d0
                                                                 000004d0
       00000000000000222
                           00000000000000000
                                              AX
                                                        0
                                                              0
                                                                     16
  [14] .fini
                           PROGBITS
                                             00000000004006f4
                                                                 000006f4
       00000000000000009
                                                        0
                           00000000000000000
                                              AX
                                                               0
                                             0000000000400700
                                                                 00000700
  [15] .rodata
                           PROGBITS
       0000000000000003e
                           00000000000000000
                                                        0
                                                               0
                                             0000000000400740
                                                                 00000740
  [16] .eh_frame_hdr
                           PROGBITS
       0000000000000034
                           00000000000000000
                                                        0
                                                               0
                                             0000000000400778
                                                                 00000778
  [17] .eh frame
                           PROGBITS
       000000000000000fc
                           00000000000000000
                                                        0
                                                               0
                                                                     8
                           INIT_ARRAY
                                             0000000000600e10
                                                                 00000e10
  [18] .init_array
       00000000000000008
                           00000000000000000
                                                        0
                                                               0
                                                                     8
                           FINI_ARRAY
                                             0000000000600e18
                                                                 00000e18
  [19] .fini_array
       00000000000000008
                           00000000000000000
                                              WA
                                                        0
                                                               0
                                                                     8
                                             0000000000600e20
                                                                00000e20
  [20] .jcr
                           PROGBITS
```

```
00000000000000008
                          00000000000000000
                                                              0
                                                                     8
  [21] .dynamic
                           DYNAMIC
                                             00000000000600e28
                                                                00000e28
       00000000000001d0
                           00000000000000010
                                              WA
                                                        6
                                                              0
  [22] .got
                           PROGBITS
                                             0000000000600ff8
                                                                00000ff8
       00000000000000008
                           00000000000000008
                                                        0
                                                              0
                                                                     8
                                             0000000000601000
                                                                00001000
  [23] .got.plt
                           PROGBITS
       00000000000000040
                           00000000000000008
                                                        0
                                                              0
                                                                     8
  [24] .data
                                             0000000000601040
                                                                00001040
                           PROGBTTS
       00000000000000010
                           00000000000000000
                                                        0
                                                              0
                                                                     8
  [25] .bss
                                             0000000000601050
                                                                00001050
                           NOBITS
       00000000000000008
                           00000000000000000
                                                        0
                                                              0
                                                                     1
  [26] .comment
                           PROGBITS
                                             00000000000000000
                                                                00001050
       0000000000000004d
                          00000000000000001
                                              MS
                                                        0
                                                              0
                                                                     1
                                                                0000109d
                                             00000000000000000
  [27] .shstrtab
                           STRTAB
       0000000000000108
                          00000000000000000
                                                        0
                                                              0
                                                                     1
                                             00000000000000000
                                                                00001928
  [28] .svmtab
                           SYMTAB
       00000000000000648
                          00000000000000018
                                                       29
                                                             45
                                                                     8
  [29] .strtab
                                             00000000000000000
                                                                00001f70
                           STRTAB
       00000000000000263
                          00000000000000000
                                                        0
                                                              0
                                                                     1
Key to Flags:
  W (write), A (alloc), X (execute), M (merge), S (strings), I (info),
  L (link order), O (extra OS processing required), G (group), T (TLS),
  C (compressed), x (unknown), o (OS specific), E (exclude),
  l (large), p (processor specific)
```

There are no section groups in this file.

```
Program Headers:
            Offset
                                         PhysAddr
 Type
                           VirtAddr
                           MemSiz
            FileSiz
                                          Flags
                                               Align
 PHDR
            0×00000000000001f8 0×00000000000001f8
                                         R F
                                               0×8
            0×0000000000000238 0×000000000400238 0×000000000400238
 INTERP
            0×000000000000001c 0×00000000000001c
    [Requesting program interpreter: /lib64/ld-linux-x86-64.so.2]
 LOAD
            0×0000000000000874 0×000000000000874
            0×0000000000000e10 0×000000000600e10 0×0000000000600e10
 LOAD
            0×0000000000000240 0×0000000000000248
                                         RW
                                               0×200000
 DYNAMIC
            0×0000000000000e28 0×0000000000600e28 0×0000000000600e28
            0×0000000000001d0 0×0000000000001d0
 NOTE
            0×0000000000000254 0×0000000000400254 0×0000000000400254
            0×0000000000000044 0×000000000000044
                                               0 \times 4
 GNU_EH_FRAME
            0×0000000000000034 0×000000000000034
            GNU_STACK
            RW
                                               0×10
```

0×00000000000001f0 0×0000000000001f0

```
Section to Segment mapping: Segment Sections ...
```

GNU RELRO

00 01 .interp 02 interp .note.ABI-tag .note.gnu.build-id .gnu.hash .dynsym .dynstr .gnu.version .gnu.version_r .rela.dyn .rela.plt .init .plt .text .fini .rodata .eh_frame_hdr .eh_frame .init_array .fini_array .jcr .dynamic .got .got.plt .data .bss 03 04 05 .note.ABI-tag .note.gnu.build-id 06 .eh_frame_hdr 07 08 .init_array .fini_array .jcr .dynamic .got

Dynamic section at offset 0×e28 contains 24 entries:
Tag Type Name/Value

```
0×000000000000001 (NEEDED)
                                         Shared library: [libc.so.6]
 0×000000000000000 (INIT)
                                         0×400450
 0×000000000000000 (FINI)
                                         0×4006f4
 0×00000000000000019 (INIT ARRAY)
                                         0×600e10
 0×000000000000001b (INIT_ARRAYSZ)
                                         8 (bytes)
 0×000000000000001a (FINI_ARRAY)
                                         0×600e18
 0×0000000000000001c (FINI ARRAYSZ)
                                         8 (bytes)
 0×000000006ffffef5 (GNU HASH)
                                         0×400298
 0×0000000000000005 (STRTAB)
                                         0×400348
 0×0000000000000006 (SYMTAB)
                                         0×4002b8
 0×0000000000000000 (STRSZ)
                                         75 (bytes)
 0×000000000000000 (SYMENT)
                                         24 (bytes)
 0×0000000000000015 (DEBUG)
                                         0×0
 0×0000000000000003 (PLTGOT)
                                         0×601000
 0×0000000000000000 (PLTRELSZ)
                                         120 (bytes)
 0×0000000000000014 (PLTREL)
                                         RELA
 0×0000000000000017 (JMPREL)
                                         0×4003d8
 0×0000000000000007 (RELA)
                                         0×4003c0
 0×0000000000000008 (RELASZ)
                                         24 (bytes)
 0×000000000000000 (RELAENT)
                                         24 (bytes)
 0×000000006ffffffe (VERNEED)
                                         0×4003a0
 0×00000006fffffff (VERNEEDNUM)
                                         1
                                         0×400394
 0×000000006ffffff0 (VERSYM)
 0×000000000000000 (NULL)
                                         0×0
Relocation section '.rela.dyn' at offset 0x3c0 contains 1 entry:
 Offset
                                                Sym. Value
                 Tnfo
                                 Type
                                                              Sym. Name + Addend
000000600ff8 000500000006 R_X86_64_GLOB_DAT 0000000000000000 \underline{gmon\_start\_} + 0
Relocation section '.rela.plt' at offset 0×3d8 contains 5 entries:
                                                              Sym. Name + Addend
  Offset
                                                Sym. Value
                 Info
                                 Type
000000601018
             000100000007 R_X86_64_JUMP_SLO 000000000000000 puts@GLIBC_2.2.5 + 0
             000200000007 R_X86_64_JUMP_SLO 000000000000000 strlenaGLIBC_2.2.5 + 0
000000601020
             000300000007 R_X86_64_JUMP_SLO 00000000000000 printf@GLIBC_2.2.5 + 0
000000601028
             000000601030
000000601038
             000500000007 R_X86_64_JUMP_SL0 000000000000000 __gmon_start__ + 0
The decoding of unwind sections for machine type Advanced Micro Devices X86-64 is not currently
supported.
Symbol table '.dynsym' contains 6 entries:
          Value
                          Size Type
                                       Bind
                                              Vis
                                                       Ndx Name
    0: 0000000000000000
                             0 NOTYPE LOCAL DEFAULT
                                                       UND
    1: 00000000000000000
                             0 FUNC
                                       GLOBAL DEFAULT
                                                       UND puts@GLIBC_2.2.5 (2)
                                                       UND [ ... ]@GLIBC_2.2.5 (2)
    2: 00000000000000000
                             0 FUNC
                                       GLOBAL DEFAULT
    3: 00000000000000000
                                                       UND [ ... ]@GLIBC_2.2.5 (2)
                             0 FUNC
                                       GLOBAL DEFAULT
                                                       UND [ ... ]@GLIBC_2.2.5 (2)
    4: 0000000000000000
                                       GLOBAL DEFAULT
                             0 FUNC
    5: 0000000000000000
                             0 NOTYPE WEAK
                                              DEFAULT
                                                       UND __gmon_start__
Symbol table '.symtab' contains 67 entries:
   Num:
                          Size Type
                                              Vis
                                                       Ndx Name
    0: 0000000000000000
                             0 NOTYPE LOCAL
                                              DEFAULT
                                                       UND
    1: 0000000000400238
                             0 SECTION LOCAL
                                              DEFAULT
                                                         1
    2: 0000000000400254
                             0 SECTION LOCAL
                                              DEFAULT
                                                         2
    3: 0000000000400274
                             0 SECTION LOCAL
                                                         3
                                              DEFAULT
    4: 0000000000400298
                             0 SECTION LOCAL
                                              DEFAULT
                                                         4
    5: 00000000004002b8
                                                         5
                             0 SECTION LOCAL
                                              DEFAULT
    6: 0000000000400348
                             0 SECTION LOCAL
                                              DEFAULT
                                                         7
    7: 0000000000400394
                             0 SECTION LOCAL
                                              DEFAULT
                             0 SECTION LOCAL
    8: 00000000004003a0
                                              DEFAULT
                                                         8
    9: 0000000004003c0
                                                         9
                             0 SECTION LOCAL
                                              DEFAULT
    10:
       00000000004003d8
                             0
                              SECTION LOCAL
                                              DEFAULT
                                                        10
       0000000000400450
                             0
                              SECTION LOCAL
                                              DEFAULT
                                                        11
   11:
                             0 SECTION LOCAL
                                                        12
   12: 0000000000400470
                                              DEFAULT
   13: 00000000004004d0
                             0 SECTION LOCAL
                                              DEFAULT
                                                        13
```

```
14: 00000000004006f4
                              0 SECTION LOCAL
                                                DEFAULT
                                                           14
    15: 0000000000400700
                              0 SECTION LOCAL
                                                DEFAULT
                                                           15
    16: 0000000000400740
                                SECTION LOCAL
                                                DEFAULT
    17:
        0000000000400778
                              0
                                SECTION LOCAL
                                                DEFAULT
                                                           17
    18:
        0000000000600e10
                              0
                                SECTION LOCAL
                                                DEFAULT
                                                           18
    19: 0000000000600e18
                              0 SECTION LOCAL
                                                DEFAULT
                                                           19
                              0 SECTION LOCAL
    20: 0000000000600e20
                                                DEFAULT
                                                           20
    21: 0000000000600e28
                              0 SECTION LOCAL
                                                DEFAULT
                                                DEFAULT
    22: 0000000000600ff8
                              0 SECTION LOCAL
                                                           22
                              0 SECTION LOCAL
    23:
        0000000000601000
                                                DEFAULT
                                                           23
    24:
        0000000000601040
                              0 SECTION LOCAL
                                                DEFAULT
                                                           24
    25:
        0000000000601050
                              0 SECTION LOCAL
                                                DEFAULT
                                                           25
    26: 0000000000000000
                              0 SECTION LOCAL
                                                DEFAULT
                                                          26
                                                         ABS crtstuff.c
    27: 00000000000000000
                              0 FILE
                                        LOCAL
                                                DEFAULT
    28: 0000000000600e20
                              0 OBJECT
                                        LOCAL
                                                DEFAULT
                                                              JCR LIST
                                                           13 deregister_tm_clones
    29: 0000000000400500
                              0 FUNC
                                        LOCAL
                                                DEFAULT
    30: 0000000000400530
                              0 FUNC
                                        LOCAL
                                                DEFAULT
                                                           13 register_tm_clones
                                                              __do_global_dtors_aux
                              0 FUNC
                                        LOCAL
        0000000000400570
                                                DEFAULT
        0000000000601050
                              1 OBJECT
                                        LOCAL
    32:
                                                DEFAULT
                                                           25 completed.6973
        0000000000600e18
                              0 OBJECT
                                        LOCAL
                                                           19
                                                              __do_global_dtor[ ... ]
    33:
                                                DEFAULT
                              0 FUNC
    34: 0000000000400590
                                        LOCAL
                                                DEFAULT
                                                           13 frame_dummy
    35: 0000000000600e10
                              0 OBJECT
                                        LOCAL
                                                DEFAULT
                                                               _frame_dummy_in[ \dots ]
                                        LOCAL
    36: 0000000000000000
                              0 FILE
                                                DEFAULT
                                                         ABS license_2.c
                                        LOCAL
    37: 00000000000000000
                              0 FILE
                                                DEFAULT
                                                         ABS crtstuff.c
                                                              ___FRAME_END
                              0 OBJECT
                                        LOCAL
    38:
        0000000000400870
                                                DEFAULT
                                                           17
                                                              __JCR_END_
    39:
        0000000000600e20
                              0 OBJECT
                                        LOCAL
                                                DEFAULT
                                                          20
    40: 0000000000000000
                              0 FILE
                                        LOCAL
                                                DEFAULT
                                                         ABS
    41: 0000000000600e18
                              0 NOTYPE
                                        LOCAL
                                                           18
                                                DEFAULT
                                                             __init_array_end
                                                           21 _DYNAMIC
    42: 0000000000600e28
                              0 OBJECT
                                        LOCAL
                                                DEFAULT
    43: 0000000000600e10
                                NOTYPE
                                        L0CAL
                                                DEFAULT
                                                           18 <u>__init_array_start</u>
                               OBJECT
    44: 0000000000601000
                              0
                                        LOCAL
                                                DEFAULT
                                                           23 _GLOBAL_OFFSET_TABLE_
    45: 00000000004006f0
                              2 FUNC
                                        GLOBAL DEFAULT
                                                           13 <u>__libc_csu_fini</u>
                                                         UND _ITM_deregisterT[ ... ]
        00000000000000000
                              0
                                NOTYPE
                                        WEAK
                                                DEFAULT
    47:
        0000000000601040
                              0
                                NOTYPE
                                        WEAK
                                                DEFAULT
                                                           24 data_start
                              0 FUNC
    48: 0000000000000000
                                        GLOBAL DEFAULT
                                                         UND puts@@GLIBC_2.2.5
    49: 0000000000601050
                              0 NOTYPE
                                        GLOBAL DEFAULT
                                                          24 _edata
    50: 00000000004006f4
                              0 FUNC
                                        GLOBAL DEFAULT
                                                           14 fini
    51: 0000000000000000
                              0 FUNC
                                        GLOBAL DEFAULT
                                                         UND strlen@@GLIBC_2.2.5
                              0 FUNC
                                        GLOBAL DEFAULT
                                                         UND printf@@GLIBC_2.2.5
    52:
        00000000000000000
    53:
        00000000000000000
                              0 FUNC
                                        GLOBAL DEFAULT
                                                         UND __libc_start_mai[ ... ]
        0000000000601040
                              0 NOTYPE
                                        GLOBAL DEFAULT
                                                          24 <u>__data_start</u>
    55: 0000000000000000
                              0 NOTYPE
                                        WEAK
                                                DEFAULT
                                                         UND __gmon_start
    56: 0000000000601048
                              0 OBJECT
                                        GLOBAL HIDDEN
                                                          24 __dso_handle
    57: 0000000000400700
                              4 OBJECT
                                        GLOBAL DEFAULT
                                                           15 _IO_stdin_used
    58: 0000000000400680
                            101 FUNC
                                        GLOBAL DEFAULT
                                                           13 __libc_csu_init
    59: 0000000000601058
                              0 NOTYPE GLOBAL DEFAULT
                                                          25 end
                              0 FUNC
                                        GLOBAL DEFAULT
                                                             _start
    60: 00000000004004d0
                                                           13
                                                              __bss_start
        0000000000601050
                              0 NOTYPE
                                        GLOBAL DEFAULT
                                                           25
        00000000004005bd
                            188 FUNC
                                        GLOBAL DEFAULT
                                                           13 main
    62:
    63: 00000000000000000
                              0 NOTYPE
                                        WEAK
                                                DEFAULT
                                                         UND _Jv_RegisterClasses
    64: 0000000000601050
                              0 OBJECT
                                        GLOBAL HIDDEN
                                                             __TMC_END
    65: 0000000000000000
                              0 NOTYPE
                                        WEAK
                                                DEFAULT
                                                         UND _ITM_registerTMC[ ... ]
                                                           11 _init
    66: 0000000000400450
                              0 FUNC
                                        GLOBAL DEFAULT
Version symbols section '.gnu.version' contains 6 entries:
                                              Link: 5 (.dynsym)
 Addr: 0×0000000000400394 Offset: 0×000394
                            2 (GLIBC_2.2.5)
                                               2 (GLIBC_2.2.5)
  000:
         0 (*local*)
                                                                  2 (GLIBC_2.2.5)
  004:
         2 (GLIBC_2.2.5)
                            0 (*local*)
Version needs section '.gnu.version_r' contains 1 entry:
 Addr: 0×00000000004003a0 Offset: 0×0003a0
                                               Link: 6 (.dynstr)
  000000: Version: 1 File: libc.so.6 Cnt: 1
  0×0010:
            Name: GLIBC_2.2.5 Flags: none Version: 2
Displaying notes found in: .note.ABI-tag
```

Owner Data size Description

GNU 0×00000010 NT_GNU_ABI_TAG (ABI version tag)

OS: Linux, ABI: 2.6.24

Displaying notes found in: .note.gnu.build-id Owner Data size Description

GNU 0×00000014 NT_GNU_BUILD_ID (unique build ID bitstring)

Build ID: 07dd19a7dbd4ce712462d74253d664acb75f11d0