NeverLAN CTF 2021

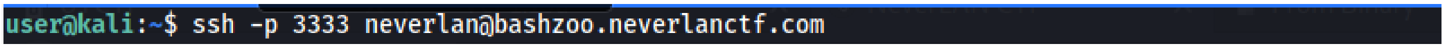
The Zoo Challenges 1 - 10

by g0dd42d (Not The PPP)

NeverLAN is an annual Middle School-focused CTF, and we were invited to test it out. The Zoo was a great beginner-friendly set of challenges. I am somewhat of a beginner myself, and it was a nice change of pace from the harder CTFs I've been attempting. I thought a write-up would be valuable for other newcomers**.**

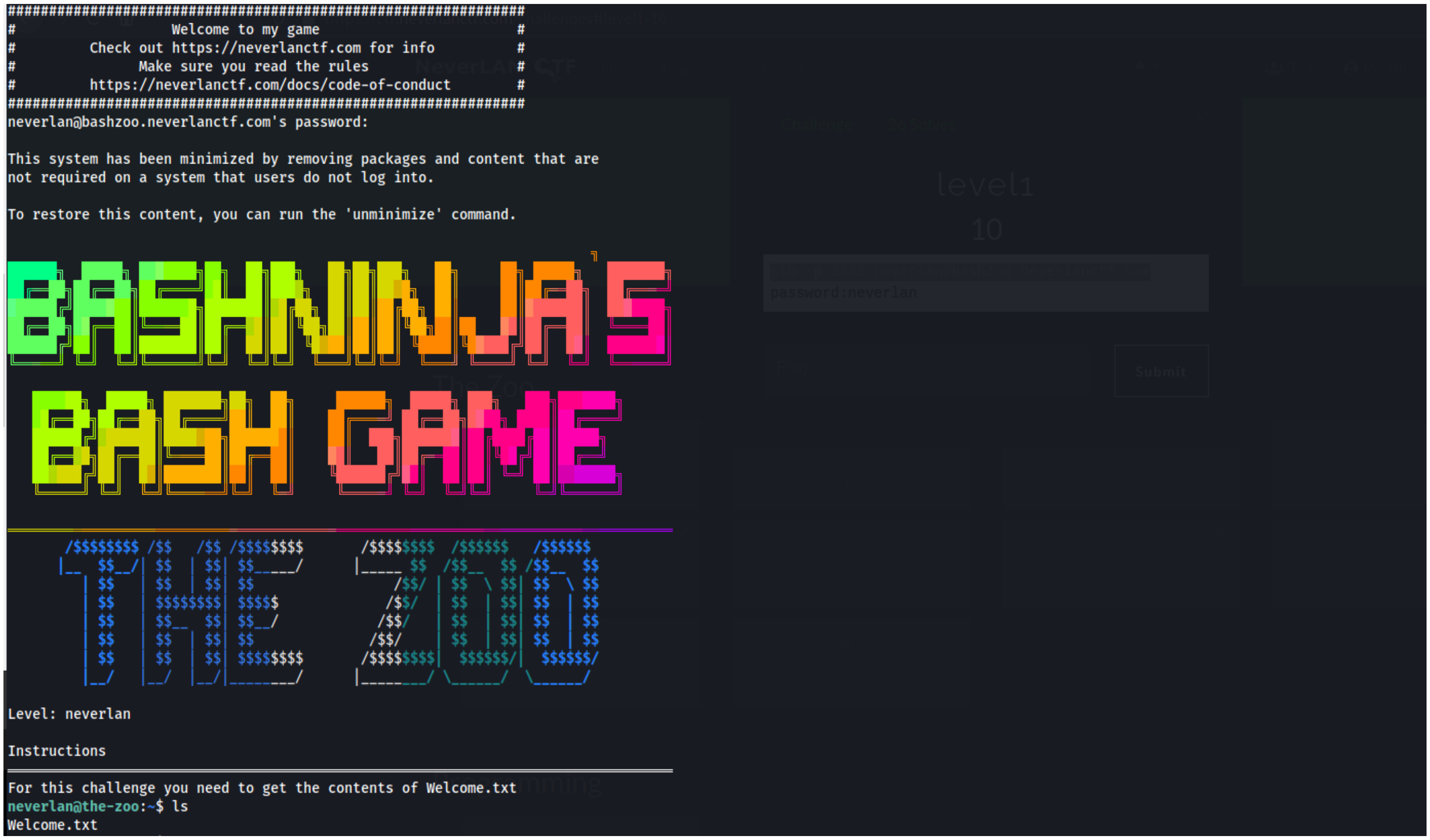
NeverLAN CTF 2021: The Zoo – level1

level1 gives us the ssh command and password to access the first level.



```
user@kali:~$ ssh -p 3333 neverlan@bashzoo.neverlanctf.com
```

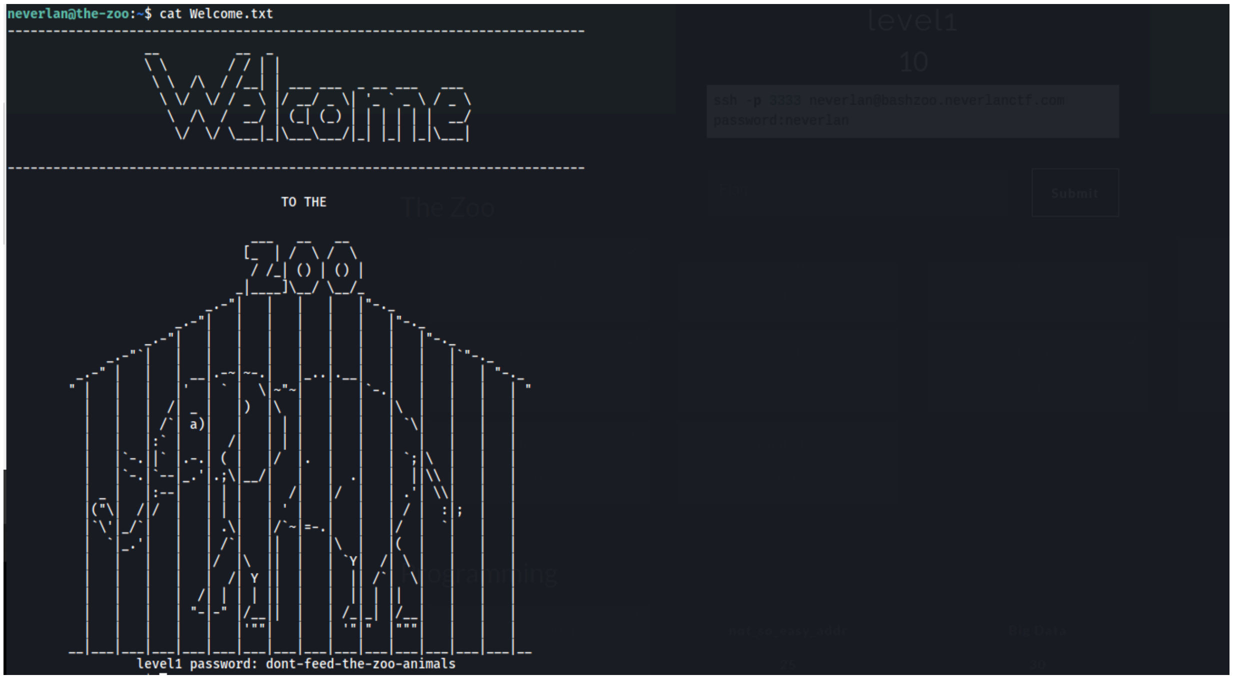
The first challenge simply tests our basic command knowledge.



```
###################################################################
#                     Welcome to my game                          #
#          Check out https://neverlanctf.com for info            #
#                Make sure you read the rules                     #
#          https://neverlanctf.com/docs/code-of-conduct          #
###################################################################
neverlan@bashzoo.neverlanctf.com's password:

This system has been minimized by removing packages and content that are
not required on a system that users do not log into.

To restore this content, you can run the 'unminimize' command.
```

```
Level: neverlan

Instructions
________________________________________________________________________
For this challenge you need to get the contents of Welcome.txt
neverlan@the-zoo:~$ ls
Welcome.txt
```

cat the Welcome.txt file for the flag.

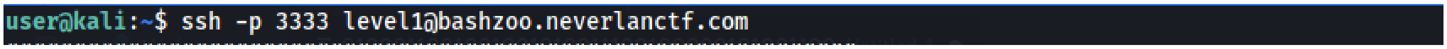


```
neverlan@the-zoo:~$ cat Welcome.txt
```

```
level1 password: dont-feed-the-zoo-animals
```

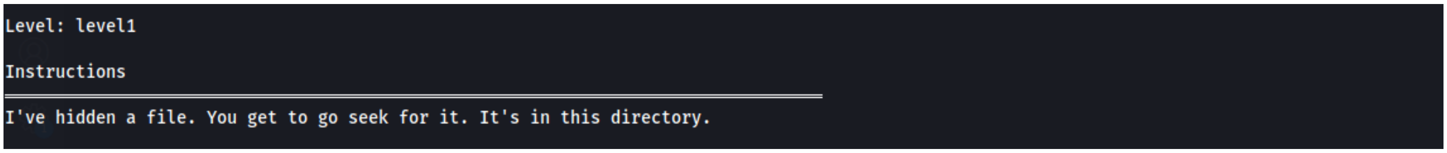
NeverLAN CTF 2021: The Zoo – level2

Access level2 with the flag from level1 as the password.



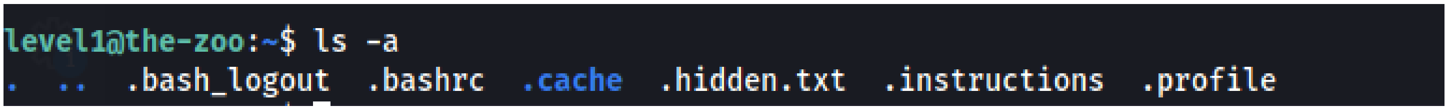
```
user@kali:~$ ssh -p 3333 level1@bashzoo.neverlanctf.com
```

It lets us know the flag is hidden in this directory.



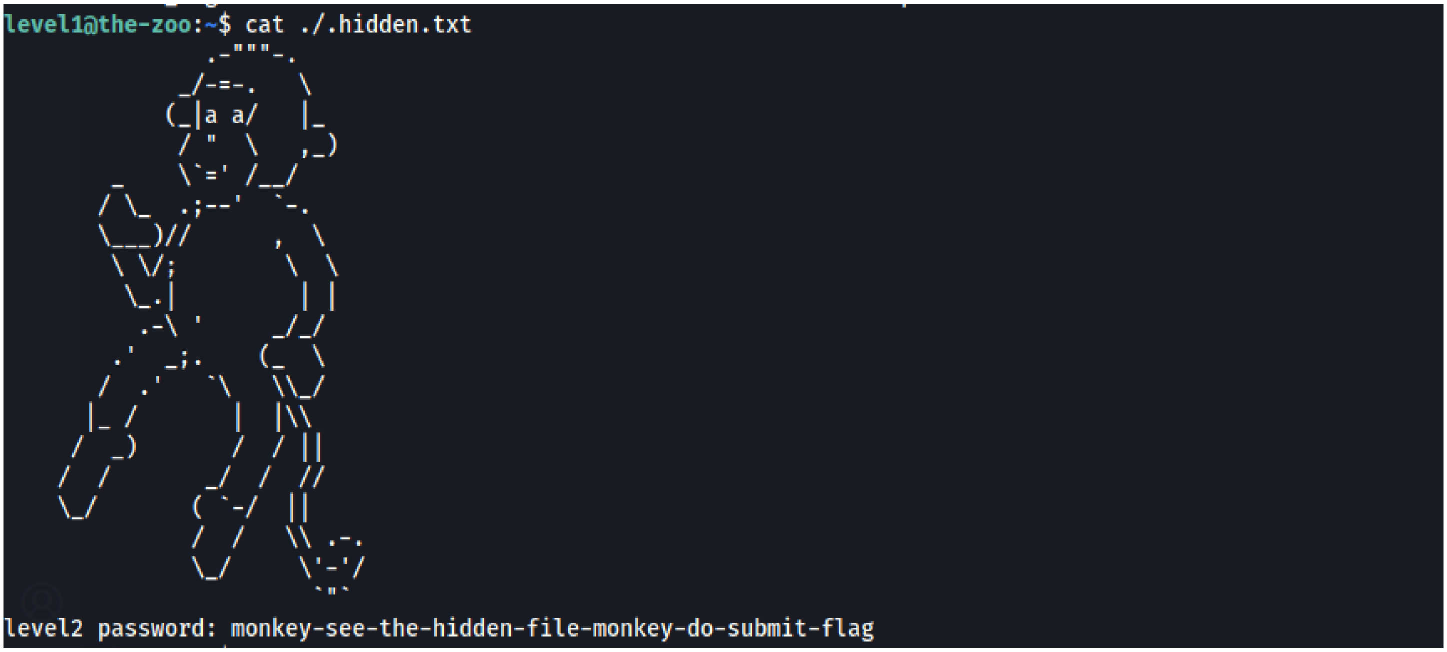
```
Level: level1

Instructions
════════════════════════════════════════════════════════════════
I've hidden a file. You get to go seek for it. It's in this directory.
```

We can view the list all the files in the directory, including the hidden ones, with the *ls -a* command.



```
level1@the-zoo:~$ ls -a
.  ..  .bash_logout  .bashrc  .cache  .hidden.txt  .instructions  .profile
```

We can view the hidden file like so.

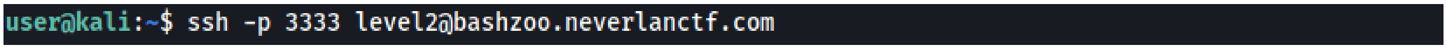


```
level1@the-zoo:~$ cat ./.hidden.txt
               .-"""-.
             _/-=-.   \
            (_|a a/   |_
             / "  \   ,_)
        _    \`=' /__/
       / \_  .;--'  `-.
       \___)//      ,  \
        \ \/;        \  \
         \_.|         | |
          .-\ '     _/_/
        .'  _;.    (_  \
       /  .'   `\   \\_/
      |_ /       |  |\\
     /  _)       /  / ||
    /  /       _/  /  //
    \_/       ( `-/  ||
              /  /   \\ .-.
              \_/     \'-'/
                       `"`
level2 password: monkey-see-the-hidden-file-monkey-do-submit-flag
```

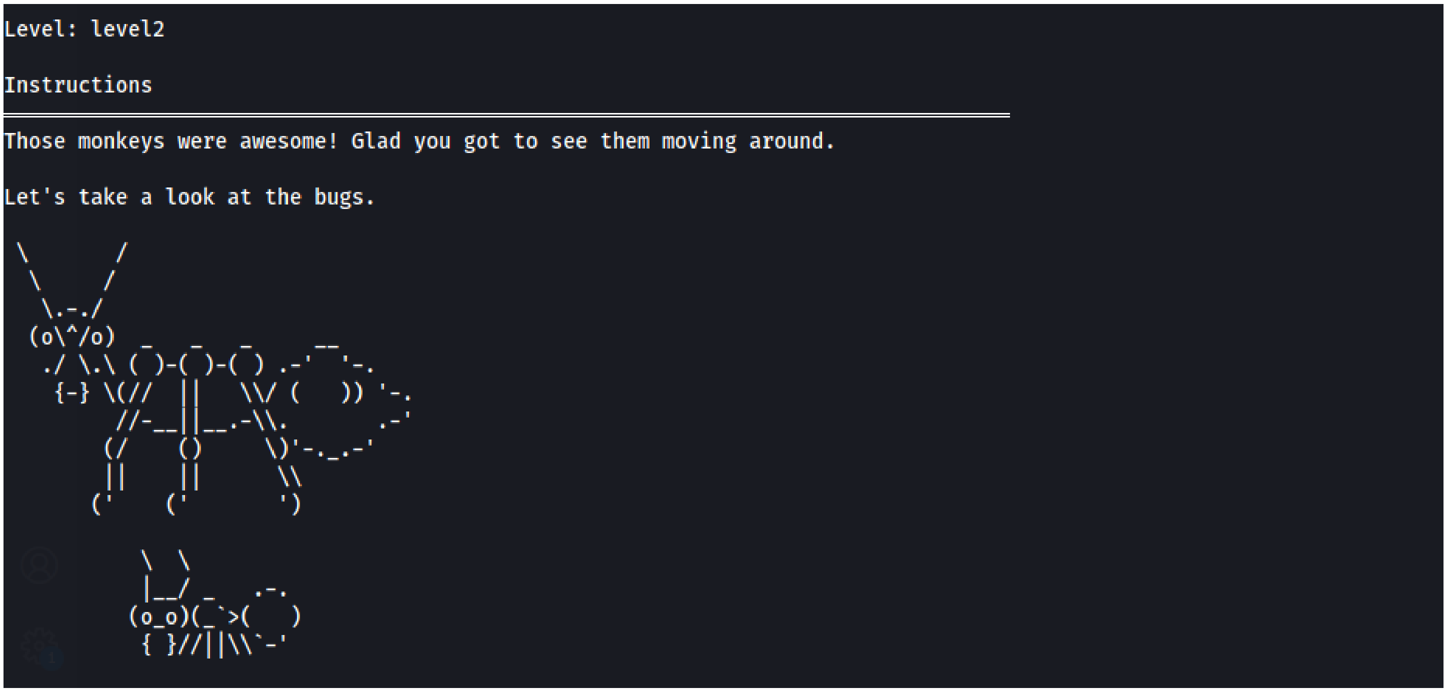
Nice!

NeverLAN CTF 2021: The Zoo – level3

Access level3 with the flag from level2 as the password.

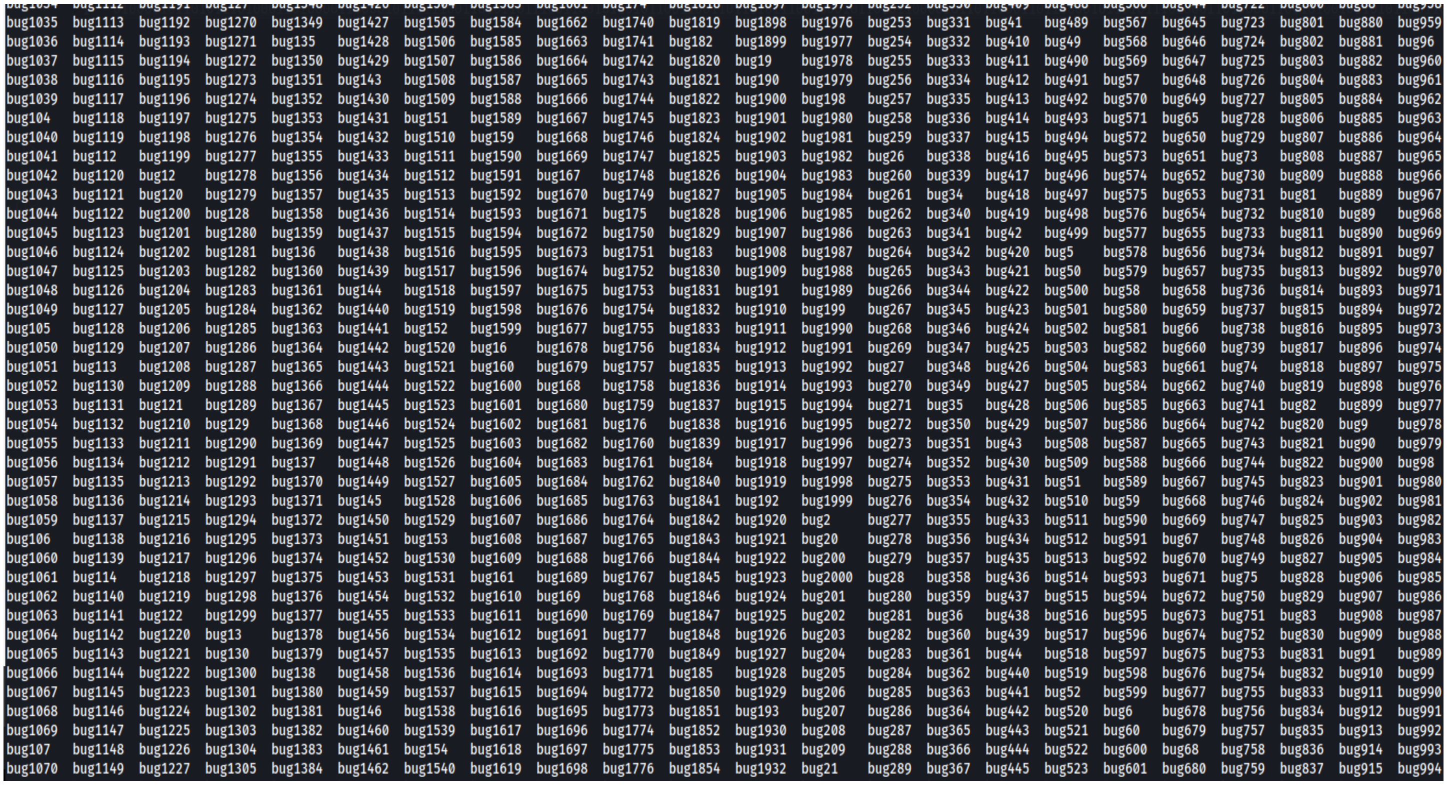


```
user@kali:~$ ssh -p 3333 level2@bashzoo.neverlanctf.com
```



```
Level: level2

Instructions

Those monkeys were awesome! Glad you got to see them moving around.

Let's take a look at the bugs.

 \       /
  \     /
   \.-./
  (o\^/o)  _   _   _     __
   ./ \.\ ( )-( )-( ) .-'  '-.
    {-} \(//  ||   \\/ (   )) '-.
         //-__||__.-\\.       .-'
        (/    ()     \)'-._.-'
        ||    ||      \\
       ('    ('       ')

           \  \
           |__/ _   .-.
          (o_o)(_`>(   )
           { }//||\\`-'
```

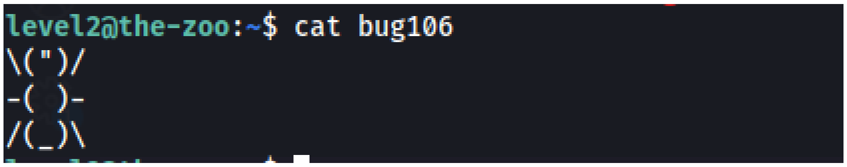
Listing the files in the directory gives us this…. Yikes.



```
bug1034  bug1112  bug1191  bug127   bug1348  bug1426  bug1504  bug1583  bug1661  bug174   bug1818  bug1897  bug1975  bug252   bug330   bug409   bug488   bug566   bug644   bug722   bug800   bug88    bug958
bug1035  bug1113  bug1192  bug1270  bug1349  bug1427  bug1505  bug1584  bug1662  bug1740  bug1819  bug1898  bug1976  bug253   bug331   bug41    bug489   bug567   bug645   bug723   bug801   bug880   bug959
bug1036  bug1114  bug1193  bug1271  bug135   bug1428  bug1506  bug1585  bug1663  bug1741  bug182   bug1899  bug1977  bug254   bug332   bug410   bug49    bug568   bug646   bug724   bug802   bug881   bug96
bug1037  bug1115  bug1194  bug1272  bug1350  bug1429  bug1507  bug1586  bug1664  bug1742  bug1820  bug19    bug1978  bug255   bug333   bug411   bug490   bug569   bug647   bug725   bug803   bug882   bug960
bug1038  bug1116  bug1195  bug1273  bug1351  bug143   bug1508  bug1587  bug1665  bug1743  bug1821  bug190   bug1979  bug256   bug334   bug412   bug491   bug57    bug648   bug726   bug804   bug883   bug961
bug1039  bug1117  bug1196  bug1274  bug1352  bug1430  bug1509  bug1588  bug1666  bug1744  bug1822  bug1900  bug198   bug257   bug335   bug413   bug492   bug570   bug649   bug727   bug805   bug884   bug962
bug104   bug1118  bug1197  bug1275  bug1353  bug1431  bug151   bug1589  bug1667  bug1745  bug1823  bug1901  bug1980  bug258   bug336   bug414   bug493   bug571   bug65    bug728   bug806   bug885   bug963
bug1040  bug1119  bug1198  bug1276  bug1354  bug1432  bug1510  bug159   bug1668  bug1746  bug1824  bug1902  bug1981  bug259   bug337   bug415   bug494   bug572   bug650   bug729   bug807   bug886   bug964
bug1041  bug112   bug1199  bug1277  bug1355  bug1433  bug1511  bug1590  bug1669  bug1747  bug1825  bug1903  bug1982  bug26    bug338   bug416   bug495   bug573   bug651   bug73    bug808   bug887   bug965
bug1042  bug1120  bug12    bug1278  bug1356  bug1434  bug1512  bug1591  bug167   bug1748  bug1826  bug1904  bug1983  bug260   bug339   bug417   bug496   bug574   bug652   bug730   bug809   bug888   bug966
bug1043  bug1121  bug120   bug1279  bug1357  bug1435  bug1513  bug1592  bug1670  bug1749  bug1827  bug1905  bug1984  bug261   bug34    bug418   bug497   bug575   bug653   bug731   bug81    bug889   bug967
bug1044  bug1122  bug1200  bug128   bug1358  bug1436  bug1514  bug1593  bug1671  bug175   bug1828  bug1906  bug1985  bug262   bug340   bug419   bug498   bug576   bug654   bug732   bug810   bug89    bug968
bug1045  bug1123  bug1201  bug1280  bug1359  bug1437  bug1515  bug1594  bug1672  bug1750  bug1829  bug1907  bug1986  bug263   bug341   bug42    bug499   bug577   bug655   bug733   bug811   bug890   bug969
bug1046  bug1124  bug1202  bug1281  bug136   bug1438  bug1516  bug1595  bug1673  bug1751  bug183   bug1908  bug1987  bug264   bug342   bug420   bug5     bug578   bug656   bug734   bug812   bug891   bug97
bug1047  bug1125  bug1203  bug1282  bug1360  bug1439  bug1517  bug1596  bug1674  bug1752  bug1830  bug1909  bug1988  bug265   bug343   bug421   bug50    bug579   bug657   bug735   bug813   bug892   bug970
bug1048  bug1126  bug1204  bug1283  bug1361  bug144   bug1518  bug1597  bug1675  bug1753  bug1831  bug191   bug1989  bug266   bug344   bug422   bug500   bug58    bug658   bug736   bug814   bug893   bug971
bug1049  bug1127  bug1205  bug1284  bug1362  bug1440  bug1519  bug1598  bug1676  bug1754  bug1832  bug1910  bug199   bug267   bug345   bug423   bug501   bug580   bug659   bug737   bug815   bug894   bug972
bug105   bug1128  bug1206  bug1285  bug1363  bug1441  bug152   bug1599  bug1677  bug1755  bug1833  bug1911  bug1990  bug268   bug346   bug424   bug502   bug581   bug66    bug738   bug816   bug895   bug973
bug1050  bug1129  bug1207  bug1286  bug1364  bug1442  bug1520  bug16    bug1678  bug1756  bug1834  bug1912  bug1991  bug269   bug347   bug425   bug503   bug582   bug660   bug739   bug817   bug896   bug974
bug1051  bug113   bug1208  bug1287  bug1365  bug1443  bug1521  bug160   bug1679  bug1757  bug1835  bug1913  bug1992  bug27    bug348   bug426   bug504   bug583   bug661   bug74    bug818   bug897   bug975
bug1052  bug1130  bug1209  bug1288  bug1366  bug1444  bug1522  bug1600  bug168   bug1758  bug1836  bug1914  bug1993  bug270   bug349   bug427   bug505   bug584   bug662   bug740   bug819   bug898   bug976
bug1053  bug1131  bug121   bug1289  bug1367  bug1445  bug1523  bug1601  bug1680  bug1759  bug1837  bug1915  bug1994  bug271   bug35    bug428   bug506   bug585   bug663   bug741   bug82    bug899   bug977
bug1054  bug1132  bug1210  bug129   bug1368  bug1446  bug1524  bug1602  bug1681  bug176   bug1838  bug1916  bug1995  bug272   bug350   bug429   bug507   bug586   bug664   bug742   bug820   bug9     bug978
bug1055  bug1133  bug1211  bug1290  bug1369  bug1447  bug1525  bug1603  bug1682  bug1760  bug1839  bug1917  bug1996  bug273   bug351   bug43    bug508   bug587   bug665   bug743   bug821   bug90    bug979
bug1056  bug1134  bug1212  bug1291  bug137   bug1448  bug1526  bug1604  bug1683  bug1761  bug184   bug1918  bug1997  bug274   bug352   bug430   bug509   bug588   bug666   bug744   bug822   bug900   bug98
bug1057  bug1135  bug1213  bug1292  bug1370  bug1449  bug1527  bug1605  bug1684  bug1762  bug1840  bug1919  bug1998  bug275   bug353   bug431   bug51    bug589   bug667   bug745   bug823   bug901   bug980
bug1058  bug1136  bug1214  bug1293  bug1371  bug145   bug1528  bug1606  bug1685  bug1763  bug1841  bug192   bug1999  bug276   bug354   bug432   bug510   bug59    bug668   bug746   bug824   bug902   bug981
bug1059  bug1137  bug1215  bug1294  bug1372  bug1450  bug1529  bug1607  bug1686  bug1764  bug1842  bug1920  bug2     bug277   bug355   bug433   bug511   bug590   bug669   bug747   bug825   bug903   bug982
bug106   bug1138  bug1216  bug1295  bug1373  bug1451  bug153   bug1608  bug1687  bug1765  bug1843  bug1921  bug20    bug278   bug356   bug434   bug512   bug591   bug67    bug748   bug826   bug904   bug983
bug1060  bug1139  bug1217  bug1296  bug1374  bug1452  bug1530  bug1609  bug1688  bug1766  bug1844  bug1922  bug200   bug279   bug357   bug435   bug513   bug592   bug670   bug749   bug827   bug905   bug984
bug1061  bug114   bug1218  bug1297  bug1375  bug1453  bug1531  bug161   bug1689  bug1767  bug1845  bug1923  bug2000  bug28    bug358   bug436   bug514   bug593   bug671   bug75    bug828   bug906   bug985
bug1062  bug1140  bug1219  bug1298  bug1376  bug1454  bug1532  bug1610  bug169   bug1768  bug1846  bug1924  bug201   bug280   bug359   bug437   bug515   bug594   bug672   bug750   bug829   bug907   bug986
bug1063  bug1141  bug122   bug1299  bug1377  bug1455  bug1533  bug1611  bug1690  bug1769  bug1847  bug1925  bug202   bug281   bug36    bug438   bug516   bug595   bug673   bug751   bug83    bug908   bug987
bug1064  bug1142  bug1220  bug13    bug1378  bug1456  bug1534  bug1612  bug1691  bug177   bug1848  bug1926  bug203   bug282   bug360   bug439   bug517   bug596   bug674   bug752   bug830   bug909   bug988
bug1065  bug1143  bug1221  bug130   bug1379  bug1457  bug1535  bug1613  bug1692  bug1770  bug1849  bug1927  bug204   bug283   bug361   bug44    bug518   bug597   bug675   bug753   bug831   bug91    bug989
bug1066  bug1144  bug1222  bug1300  bug138   bug1458  bug1536  bug1614  bug1693  bug1771  bug185   bug1928  bug205   bug284   bug362   bug440   bug519   bug598   bug676   bug754   bug832   bug910   bug99
bug1067  bug1145  bug1223  bug1301  bug1380  bug1459  bug1537  bug1615  bug1694  bug1772  bug1850  bug1929  bug206   bug285   bug363   bug441   bug52    bug599   bug677   bug755   bug833   bug911   bug990
bug1068  bug1146  bug1224  bug1302  bug1381  bug146   bug1538  bug1616  bug1695  bug1773  bug1851  bug193   bug207   bug286   bug364   bug442   bug520   bug6     bug678   bug756   bug834   bug912   bug991
bug1069  bug1147  bug1225  bug1303  bug1382  bug1460  bug1539  bug1617  bug1696  bug1774  bug1852  bug1930  bug208   bug287   bug365   bug443   bug521   bug60    bug679   bug757   bug835   bug913   bug992
bug107   bug1148  bug1226  bug1304  bug1383  bug1461  bug154   bug1618  bug1697  bug1775  bug1853  bug1931  bug209   bug288   bug366   bug444   bug522   bug600   bug68    bug758   bug836   bug914   bug993
bug1070  bug1149  bug1227  bug1305  bug1384  bug1462  bug1540  bug1619  bug1698  bug1776  bug1854  bug1932  bug21    bug289   bug367   bug445   bug523   bug601   bug680   bug759   bug837   bug915   bug994
```

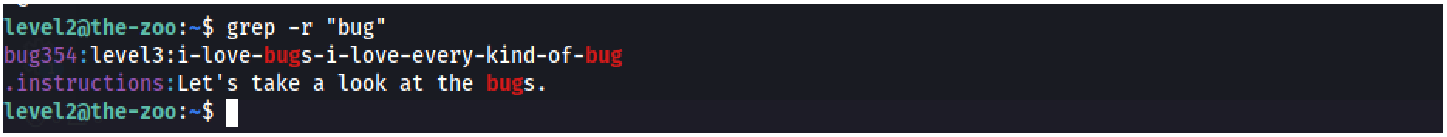
NeverLAN CTF 2021: The Zoo – level3

The files seem to be full of…. Bugs?



```
level2@the-zoo:~$ cat bug106
\(")/
-( )-
/(_)\
```

We can perform a recursive search with *grep -r*. The term “level3” seems like a good start.

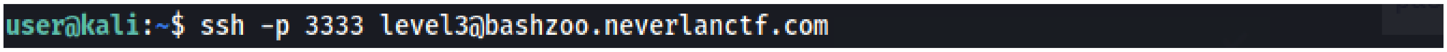


```
level2@the-zoo:~$ grep -r "bug"
bug354:level3:i-love-bugs-i-love-every-kind-of-bug
.instructions:Let's take a look at the bugs.
level2@the-zoo:~$ 
```

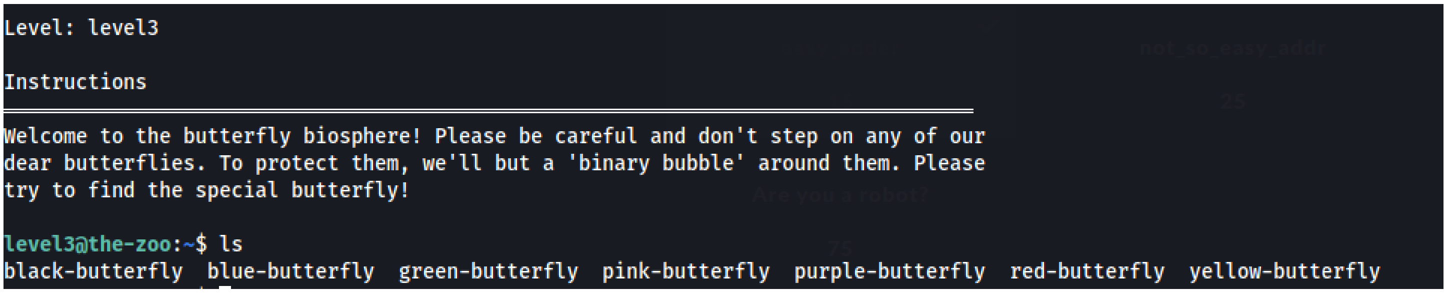
And there it is!

NeverLAN CTF 2021: The Zoo – level4

Access level4 with the flag from level3 as the password.

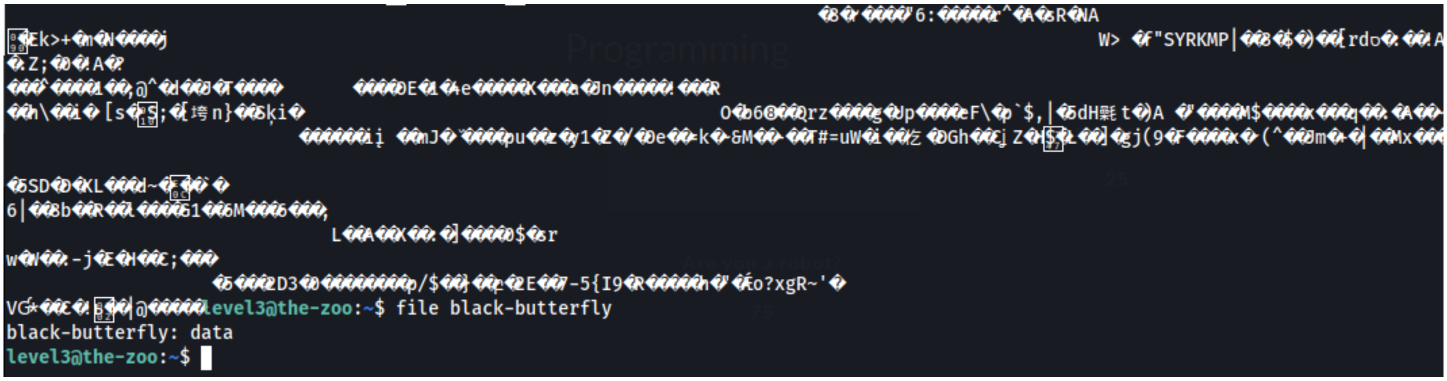


```
user@kali:~$ ssh -p 3333 level3@bashzoo.neverlanctf.com
```



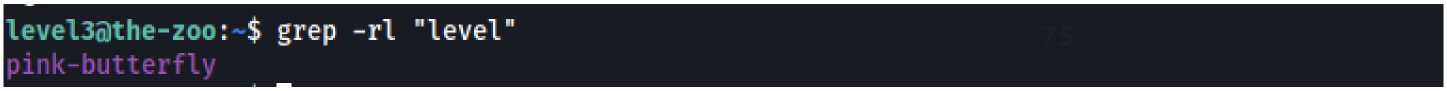
```
Level: level3

Instructions
________________________________________________________________________________
Welcome to the butterfly biosphere! Please be careful and don't step on any of our
dear butterflies. To protect them, we'll but a 'binary bubble' around them. Please
try to find the special butterfly!

level3@the-zoo:~$ ls
black-butterfly  blue-butterfly  green-butterfly  pink-butterfly  purple-butterfly  red-butterfly  yellow-butterfly
```

Examining a file gives us a mess.



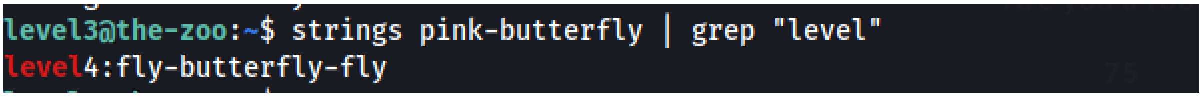
```
                                                                  ��8�� �����"6:������r^�A��sR��NA
�Ek>+��m��N�����j                                                                          W> ��f"SYRKMP|���8��$�)���[rdo��.���!A
��.Z;���0��.A��?
����^�����1���,@^��d����J��T�����       �����0E��1��4e������K����a��3n������!����R
���h\���i� [s��S;��{垮n}���5ki�                                     O���b6��8���Qrz�����g���Jp�����eF\��p`$,|���5dH鬏t��)A ��"�����M$�����x����q���.��A���
                            �������i ���mJ� ����pu���z��y1��Z��/���e���=k��-&M���-���T#=uW���i���乞 ���Gh����j Z���$��L���]��gj(9��F�����x� (^����m��-��|���Mx���

���5SD���D��KL����d~������ �
6|����8b���R���l�����61����M�����6���,
                              L����A����X���. ��]������$���sr
w���N���.-j���E���H����;����
                   ���5�����2D3���0���������p/$���}���p���2E����7-5{I9���R������h��"��Éo?xgR~'�
VG*����E��.B���|@������level3@the-zoo:~$ file black-butterfly
black-butterfly: data
level3@the-zoo:~$
```

We can use *grep* again to search for the flag. We see that the **pink-butterfly** directory contains matching text.



```
level3@the-zoo:~$ grep -rl "level"
pink-butterfly
```

We can use *strings* and pipe (I) the output to *grep* to find the flag.

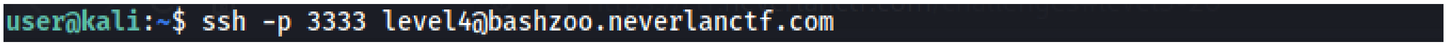


```
level3@the-zoo:~$ strings pink-butterfly | grep "level"
level4:fly-butterfly-fly
```

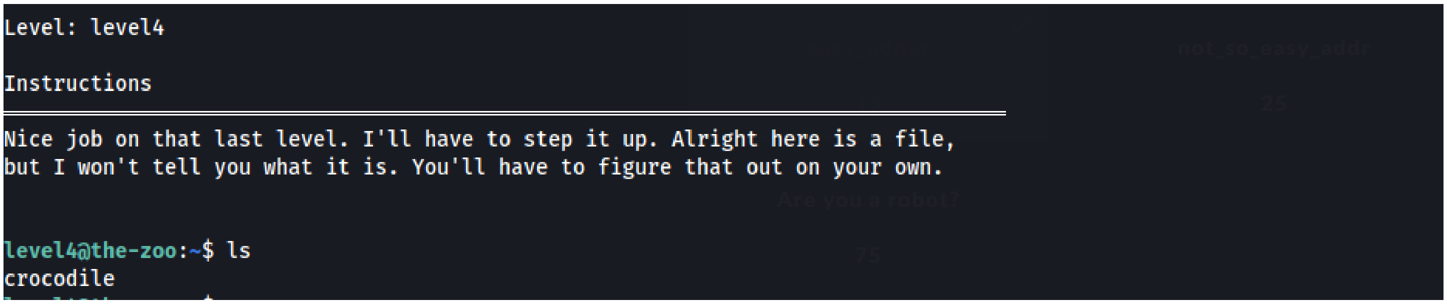
Done!

NeverLAN CTF 2021: The Zoo – level5

Access level5 with the flag from level4 as the password.

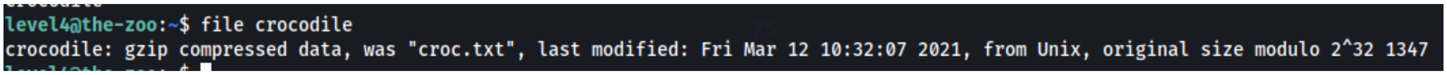


```
user@kali:~$ ssh -p 3333 level4@bashzoo.neverlanctf.com
```



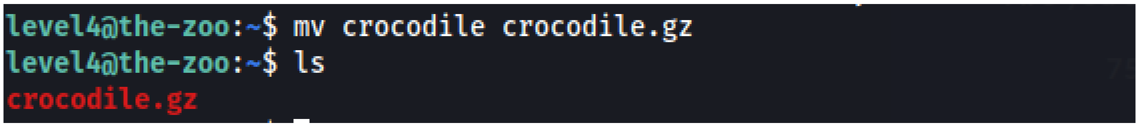
```
Level: level4

Instructions
================================================================================
Nice job on that last level. I'll have to step it up. Alright here is a file,
but I won't tell you what it is. You'll have to figure that out on your own.


level4@the-zoo:~$ ls
crocodile
```

file tells us this is a gzip compressed file.



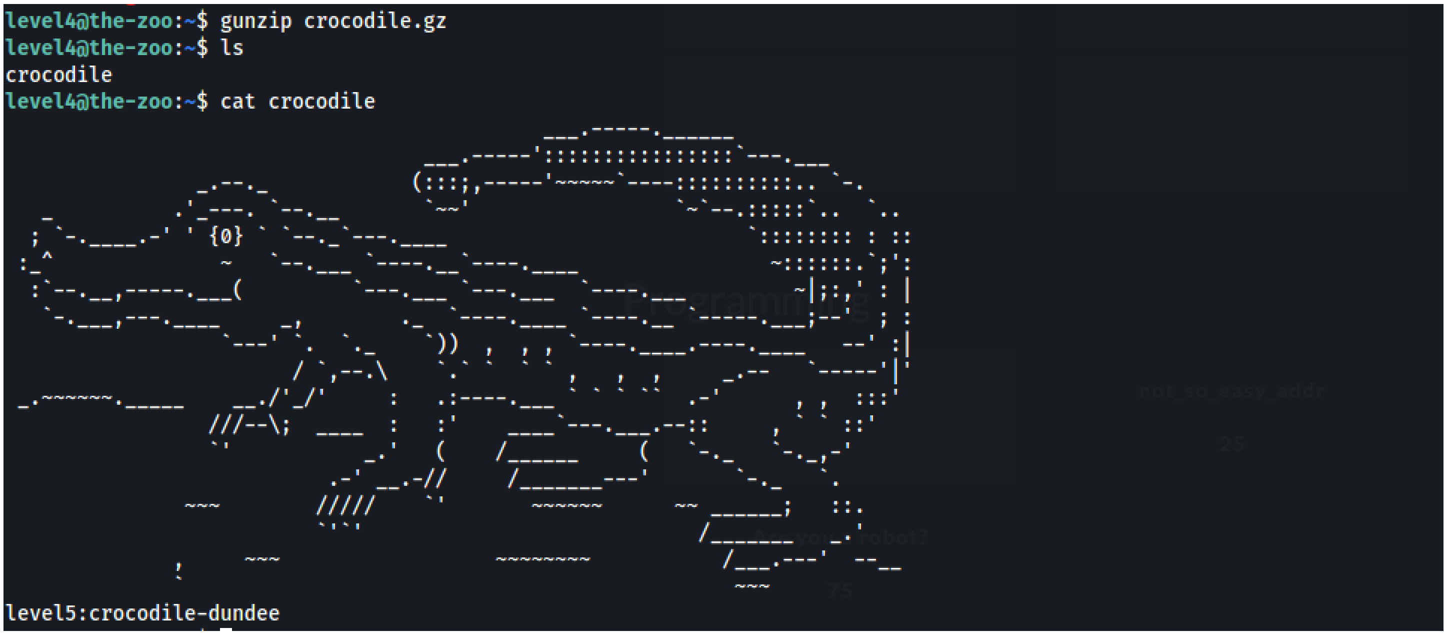
```
level4@the-zoo:~$ file crocodile
crocodile: gzip compressed data, was "croc.txt", last modified: Fri Mar 12 10:32:07 2021, from Unix, original size modulo 2^32 1347
```

We will need to give the file a suffix to unzip it.



```
level4@the-zoo:~$ mv crocodile crocodile.gz
level4@the-zoo:~$ ls
crocodile.gz
```

gunzip will decompress the compressed file, allowing us to read the text in the file.

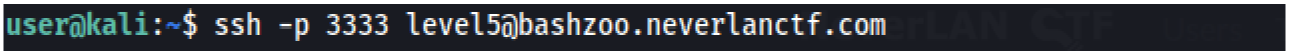


```
level4@the-zoo:~$ gunzip crocodile.gz
level4@the-zoo:~$ ls
crocodile
level4@the-zoo:~$ cat crocodile
                                             ___.-----.______
                                   ___.-----':::::::::::::::`---.___
                _.--._            (:::;,-----'~~~~~`----:::::::::..  `-.
   _          .'_---. `--.__       `~~'                 `~`--.:::::`.. `..
  ; `-.____.-' ' {0} ` `--._`---.____                         `::::::::: : ::
 :_^              ~   `--.___ `----.__`----.____                ~::::::.`;':
  :`--.__,-----.___(         `---.___ `---.___  `----.___        ~|;:,'  : |
   `-.___,---.____     -!        ._  `----.____ `----.__ `-----.___;--'  ; :
                  `---' `.  `._    `))  !  ! ! `----.____.----.____  --'  :|
                        / `,--.\    `.         ! . ! .!     _.--   `-----'|'
 _.~~~~~~~.______  __./'_/'     :   .:----.___           .-'      ! !  :::'
                 ///--\;  ____  :   :'    ____`---.___.--::     ,     ::'
                 `'           _.'   (    /______     (   `-._   `-._,-'
                           .-' __.-//     /_______---'       `-._   `.
               ~~~        /////    `'      ~~~~~~~      ~~ ______;   ::.
                          `'`'                            /_______  _.'
               !    ~~~                 ~~~~~~~~~           /___.---'  --__
                                                             ~~~
level5:crocodile-dundee
```

That’s it!

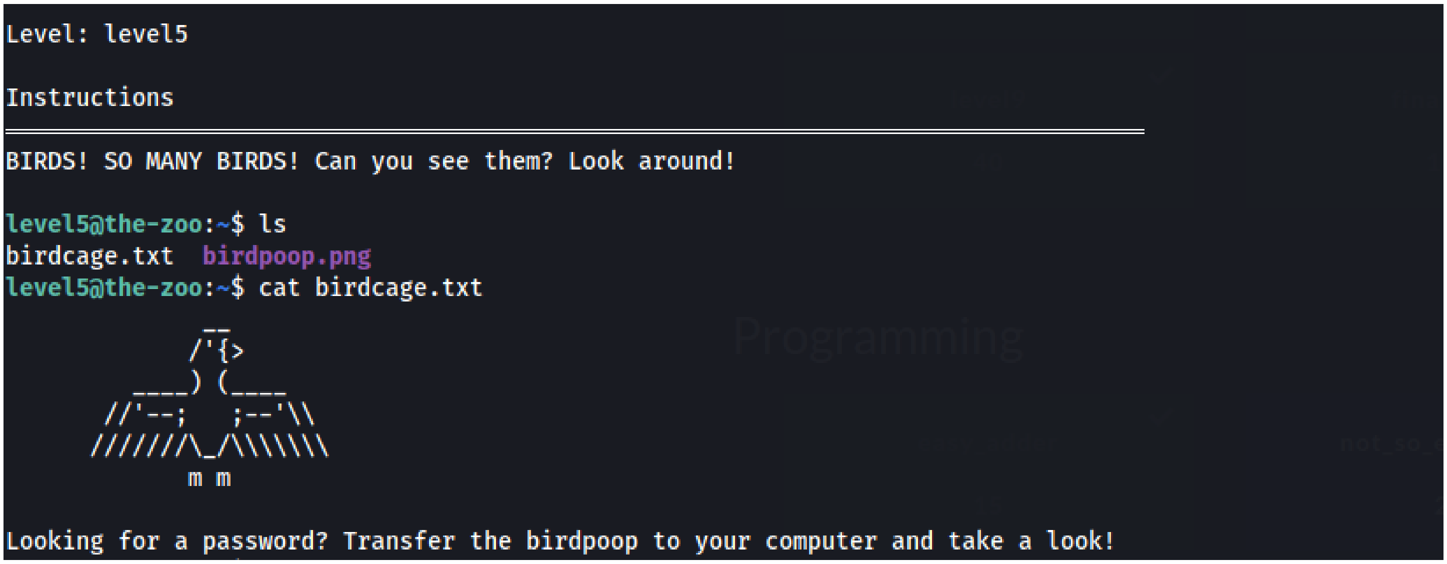
NeverLAN CTF 2021: The Zoo – level6

Access level6 with the flag from level5 as the password.



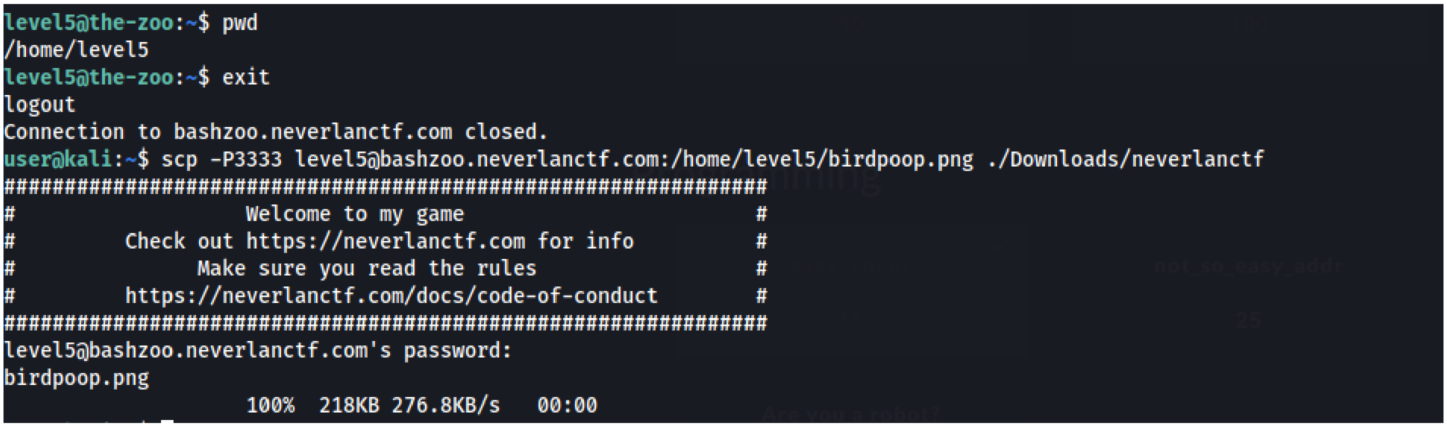
```
user@kali:~$ ssh -p 3333 level5@bashzoo.neverlanctf.com
```

It asks us to copy the file to our system., so that's what we'll do!



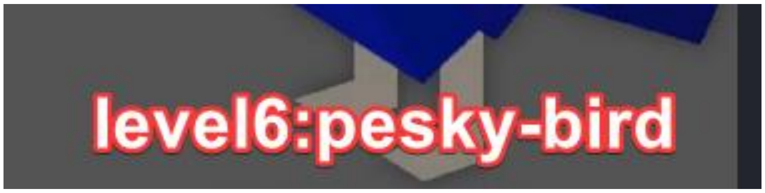
```
Level: level5

Instructions
═══════════════════════════════════════════════════════════════════════
BIRDS! SO MANY BIRDS! Can you see them? Look around!

level5@the-zoo:~$ ls
birdcage.txt  birdpoop.png
level5@the-zoo:~$ cat birdcage.txt
              __
             /'{>
         ____) (____
       //'--;    ;--'\\
      ///////\_/\\\\\\\
             m m

Looking for a password? Transfer the birdpoop to your computer and take a look!
```

Will take note of the working directory and exit. Then, we can use *scp* to copy the file from the host over port 3333 to our local neverlanctf directory.



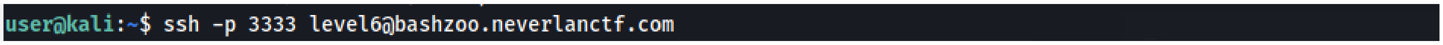
```
level5@the-zoo:~$ pwd
/home/level5
level5@the-zoo:~$ exit
logout
Connection to bashzoo.neverlanctf.com closed.
user@kali:~$ scp -P3333 level5@bashzoo.neverlanctf.com:/home/level5/birdpoop.png ./Downloads/neverlanctf
###############################################################
#                   Welcome to my game                        #
#         Check out https://neverlanctf.com for info          #
#               Make sure you read the rules                  #
#         https://neverlanctf.com/docs/code-of-conduct        #
###############################################################
level5@bashzoo.neverlanctf.com's password:
birdpoop.png
                    100%  218KB 276.8KB/s   00:00
```

Opening the image gives us the flag!

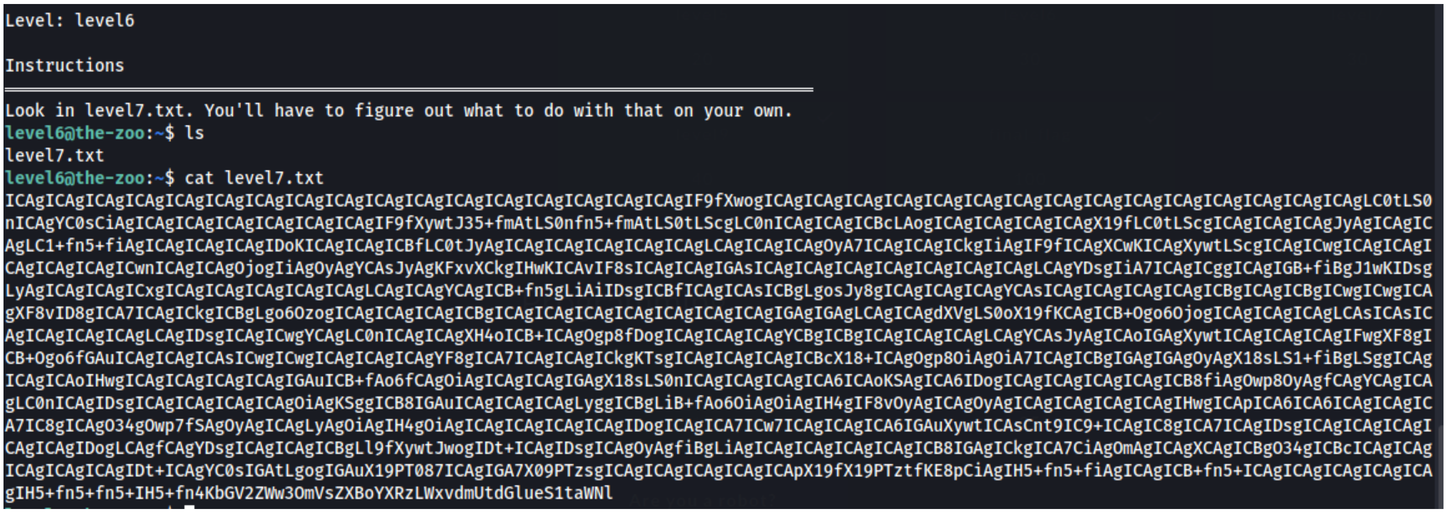


NeverLAN CTF 2021: The Zoo – level7

Access level7 with the flag from level6 as the password.

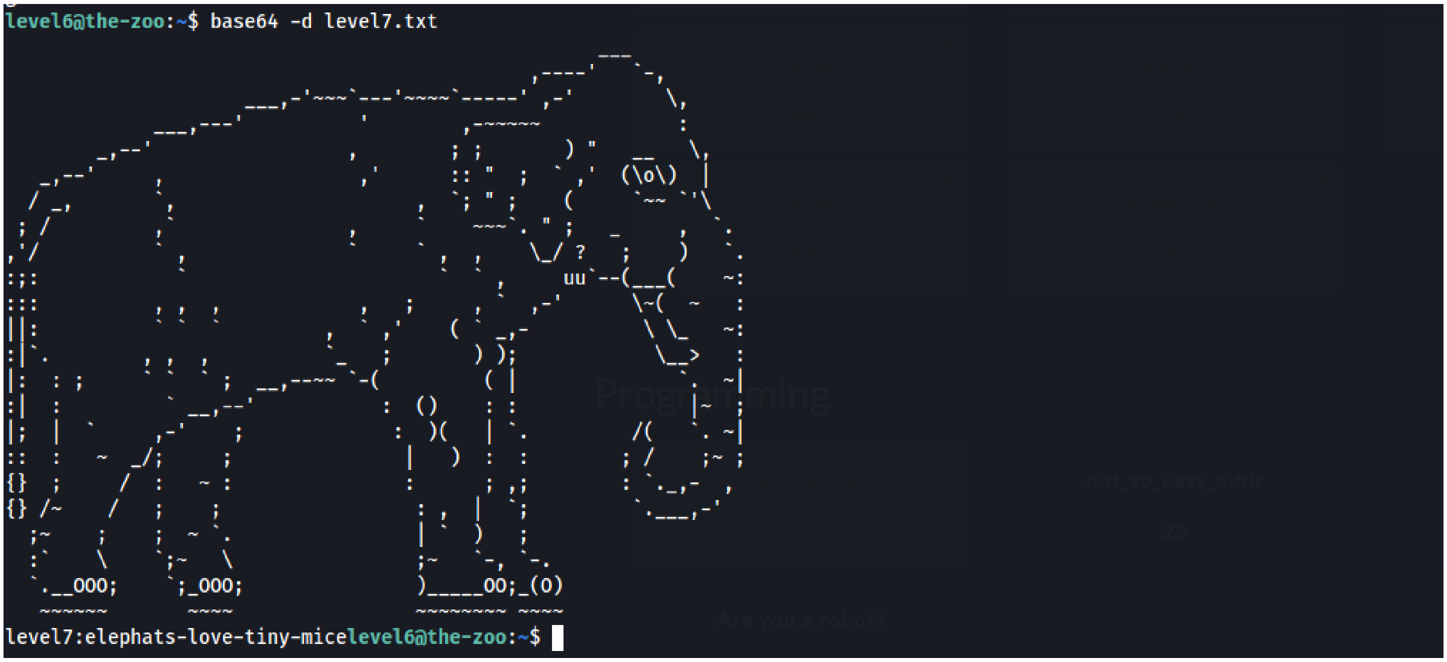


```
user@kali:~$ ssh -p 3333 level6@bashzoo.neverlanctf.com
```



```
Level: level6

Instructions
════════════════════════════════════════════════════════════════════════════════
Look in level7.txt. You'll have to figure out what to do with that on your own.
level6@the-zoo:~$ ls
level7.txt
level6@the-zoo:~$ cat level7.txt
ICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIF9fXwogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgLC0tLS0
nICAgYC0sCiAgICAgICAgICAgICAgICAgICAgIF9fXywtJ35+fmAtLS0nfn5+fmAtLS0tLScgLC0nICAgICAgICBcLAogICAgICAgICAgICAgX19fLC0tLScgICAgICAgICAgJyAgICAgIC
AgLC1+fn5+fiAgICAgICAgICAgIDoKICAgICAgICBfLC0tJyAgICAgICAgICAgICAgICAgLCAgICAgICAgOyA7ICAgICAgICkgIiAgIF9fICAgXCwKICAgXywtLScgICAgICwgICAgICAgI
CAgICAgICAgICwnICAgICAgOjogIiAgOyAgYCAsJyAgKFxvXCkgIHwKICAvIF8sICAgICAgIGAsICAgICAgICAgICAgICAgICAgICAgLCAgYDsgIiA7ICAgICggICAgIGB+fiBgJ1wKIDsg
LyAgICAgICAgICxgICAgICAgICAgICAgICAgLCAgICAgYCAgICB+fn5gLiAiIDsgICBfICAgICAsICBgLgosJy8gICAgICAgICAgYCAsICAgICAgICAgICAgICBgICAgICBgICwgICwgICA
gXF8vID8gICA7ICAgICkgICBgLgo6OzogICAgICAgICAgICBgICAgICAgICAgICAgICAgICAgICAgIGAgIGAgLCAgICAgdXVgLS0oX19fKCAgICB+Ogo6OjogICAgICAgICAgLCAsICAsIC
AgICAgICAgICAgLCAgIDsgICAgICwgYCAgLC0nICAgICAgXH4oICB+ICAgOgp8fDogICAgICAgICAgYCBgICBgICAgICAgICAgLCAgYCAsJyAgICAoIGAgXywtICAgICAgICAgIFwgXF8gI
CB+Ogo6fGAuICAgICAgICAsICwgICwgICAgICAgICAgYF8gICA7ICAgICAgICkgKTsgICAgICAgICAgICBcX18+ICAgOgp8OiAgOiA7ICAgICBgIGAgIGAgOyAgX18sLS1+fiBgLSggICAg
ICAgICAoIHwgICAgICAgICAgICAgIGAuICB+fAo6fCAgOiAgICAgICAgIGAgX18sLS0nICAgICAgICAgICA6ICAoKSAgICA6IDogICAgICAgICAgICAgICB8fiAgOwp8OyAgfCAgYCAgICA
gLC0nICAgIDsgICAgICAgICAgICAgOiAgKSggICB8IGAuICAgICAgICAgLyggICBgLiB+fAo6OiAgOiAgIH4gIF8vOyAgICAgOyAgICAgICAgICAgICAgIHwgICApICA6ICA6ICAgICAgIC
A7IC8gICAgO34gOwp7fSAgOyAgICAgLyAgOiAgIH4gOiAgICAgICAgICAgICAgIDogICAgICA7ICw7ICAgICAgICA6IGAuXywtICAsCnt9IC9+ICAgIC8gICA7ICAgIDsgICAgICAgICAgI
CAgICAgIDogLCAgfCAgYDsgICAgICAgICBgLl9fXywtJwogIDt+ICAgIDsgICAgOyAgfiBgLiAgICAgICAgICAgICAgICB8IGAgICkgICA7CiAgOmAgICAgXCAgICBgO34gICBcICAgICAg
ICAgICAgICAgIDt+ICAgYC0sIGAtLgogIGAuX19PT087ICAgIGA7X09PTzsgICAgICAgICAgICAgICApX19fX19PTztfKE8pCiAgIH5+fn5+fiAgICAgICB+fn5+ICAgICAgICAgICAgICA
gIH5+fn5+fn5+IH5+fn4KbGV2ZWw3OmVsZXBoYXRzLWxvdmUtdGlueS1taWNl
```

We are not provided with a hint this time. With experience, we see that the repeating “ICAg” in the string equates to three spaces when text is base64-encoded. We can decode it with *base64 -d*.

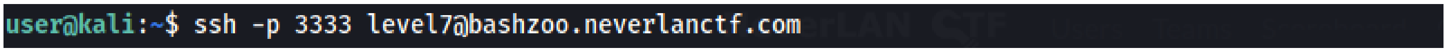


```
level6@the-zoo:~$ base64 -d level7.txt
                                                    ___
                                              ,----'   `-,
                     ___,-'~~~`---'~~~~`-----' ,-'        \,
             ___,---'          '        ,-~~~~~            :
        _,--'                 ,        ; ;       ) "   __   \,
   _,--'     ,                 ,'      ::"  ;  ` ,'  (\o\)  |
  / _,       `,                     ,  `; " ;    (     `~~ `'\
 ; /         ,`               ,     `    ~~~ . " ;   _     ,  `.
,'/          ` ,              `     ` ,  ,    \_/ ?   ;    )   `.
:;:            `                      `  ` ,     uu`--(___(    ~:
:::          , ,  ,            ,   ;     , `  ,-'      \~(  ~   :
||:          ` `  `         ,  ` ,'    ( ` _,-          \ \_   ~:
:|`.        , ,  ,          `_   ;       ) );            \__>   :
|:  : ;     ` `  ` ;  __,--~~ `-(         ( |              `.  ~|
:|  :         ` __,--'           :  ()    : :               |~  ;
|;  |  `     ,-'    ;             :  )(   | `.         /(   `. ~|
::  :   ~  _/;     ;               |   )  :  :        ; /    ;~ ;
{}  ;     /  :   ~ :               :         ; ,;        : `._,-  ,
{} /~    /   ;    ;                 : ,  |  `;         `.___,-'
  ;~    ;    ;  ~ `.                | `  )   ;
  :`    \    `;~   \                ;~   `-, `-.
  `.__OOO;    `;_OOO;               )_____OO;_(O)
   ~~~~~~       ~~~~                ~~~~~~~~ ~~~~
level7:elephats-love-tiny-micelevel6@the-zoo:~$ 
```

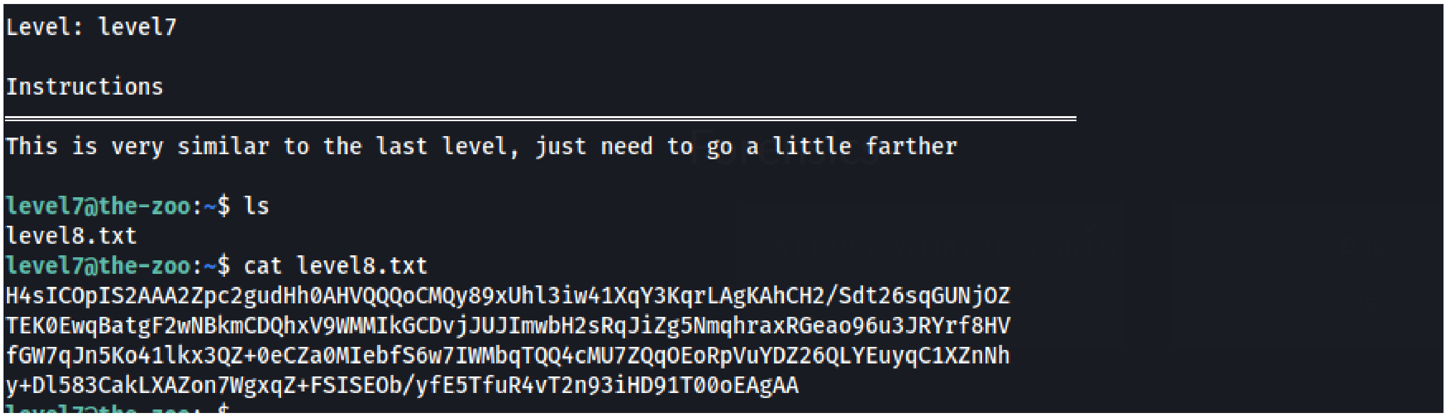
Sure enough, this presents us with the flag!

NeverLAN CTF 2021: The Zoo – level8

Access level8 with the flag from level7 as the password.

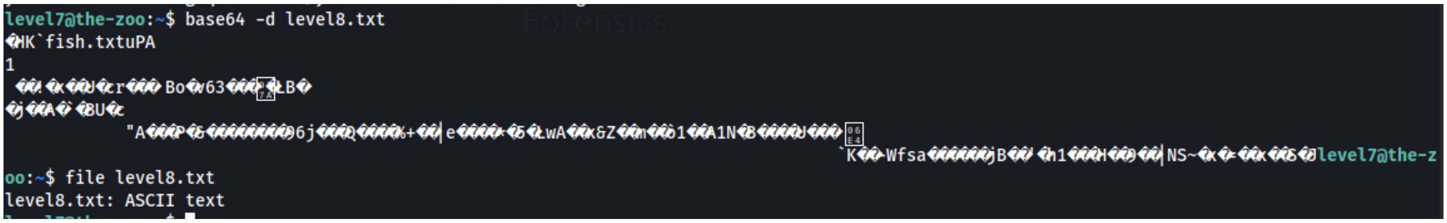


```
user@kali:~$ ssh -p 3333 level7@bashzoo.neverlanctf.com
```



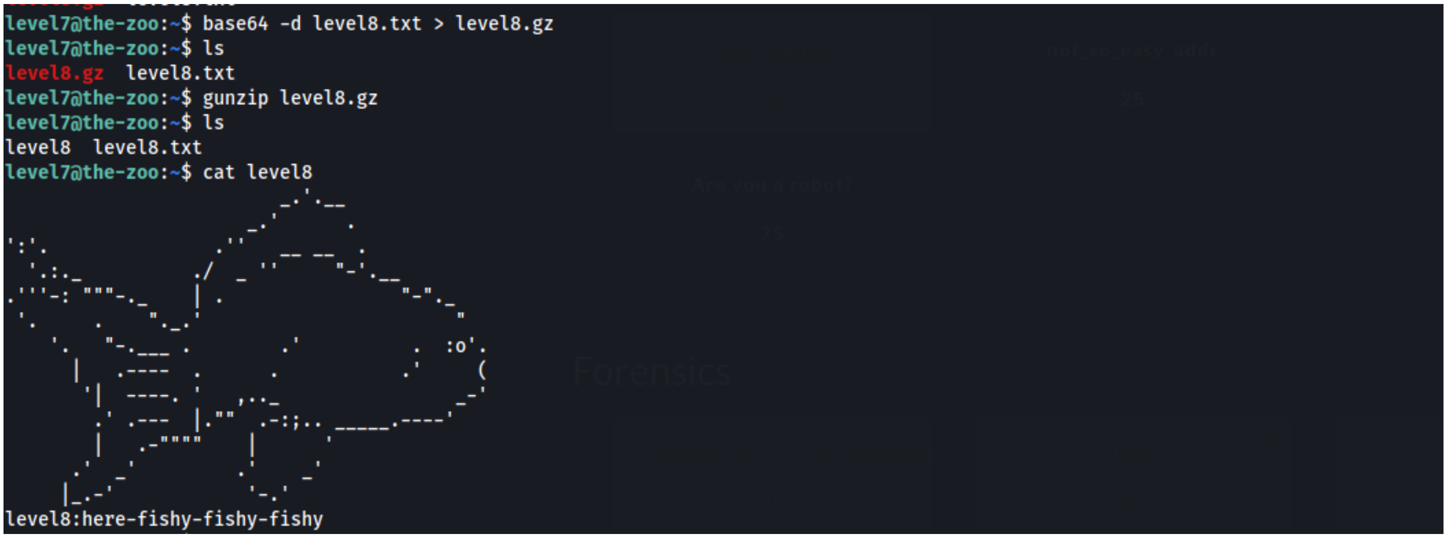
```
Level: level7

Instructions
══════════════════════════════════════════════════════════════
This is very similar to the last level, just need to go a little farther

level7@the-zoo:~$ ls
level8.txt
level7@the-zoo:~$ cat level8.txt
H4sICOpIS2AAA2Zpc2gudHh0AHVQQQoCMQy89xUhl3iw41XqY3KqrLAgKAhCH2/Sdt26sqGUNjOZ
TEK0EwqBatgF2wNBkmCDQhxV9WMMIkGCDvjJUJImwbH2sRqJiZg5NmqhraxRGeao96u3JRYrf8HV
fGW7qJn5Ko41lkx3QZ+0eCZa0MIebfS6w7IWMbqTQQ4cMU7ZQqOEoRpVuYDZ26QLYEuyqC1XZnNh
y+Dl583CakLXAZon7WgxqZ+FSISEOb/yfE5TfuR4vT2n93iHD91T00oEAgAA
```

We start with another text file. The hint suggests we try the same thing as last time.



```
level7@the-zoo:~$ base64 -d level8.txt
�HK`fish.txtuPA
1
 ��.�x��J�cr��� Bo�v63���7A�LB�
�j��A� �BU�c
           "A���P�&��������96j���Q����%+��|e����+�5�LwA��x&Z��m���1��A1N�B����J���06E4
                                                                               `K��-Wfsa������jB��' �h1���H��9��|NS~�x�=��x��&�level7@the-z
oo:~$ file level8.txt
level8.txt: ASCII text
```

We can see a fish.txt in the garbled result, so we are on the right track. This appears to be another compressed file, so let’s append a suffix and decompress it. We can pipe the decoded base64 output to a gzip and decompress it.

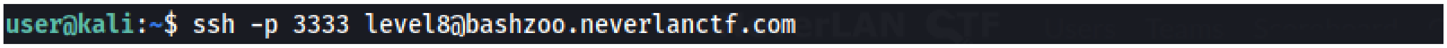


```
level7@the-zoo:~$ base64 -d level8.txt > level8.gz
level7@the-zoo:~$ ls
level8.gz  level8.txt
level7@the-zoo:~$ gunzip level8.gz
level7@the-zoo:~$ ls
level8  level8.txt
level7@the-zoo:~$ cat level8
                         _.'.__
                      _.'      .
':'.               .''   __ __  .
  '.:._          ./  _ ''     "_'.__
.'''-: """-._    | .                "_"._
 '.     .    "._.'                       "
    '.   "-.___ .        .'          .  :o'.
      |   .----  .      .           .'     (
       '|  ----. '   ,.._                _-'
        .' .---  |.""  .-:;.. _____.----'
        |   .-""""    |      '
      .'  _'         .'    _'
     |_.-'            '-.'
level8:here-fishy-fishy-fishy
```

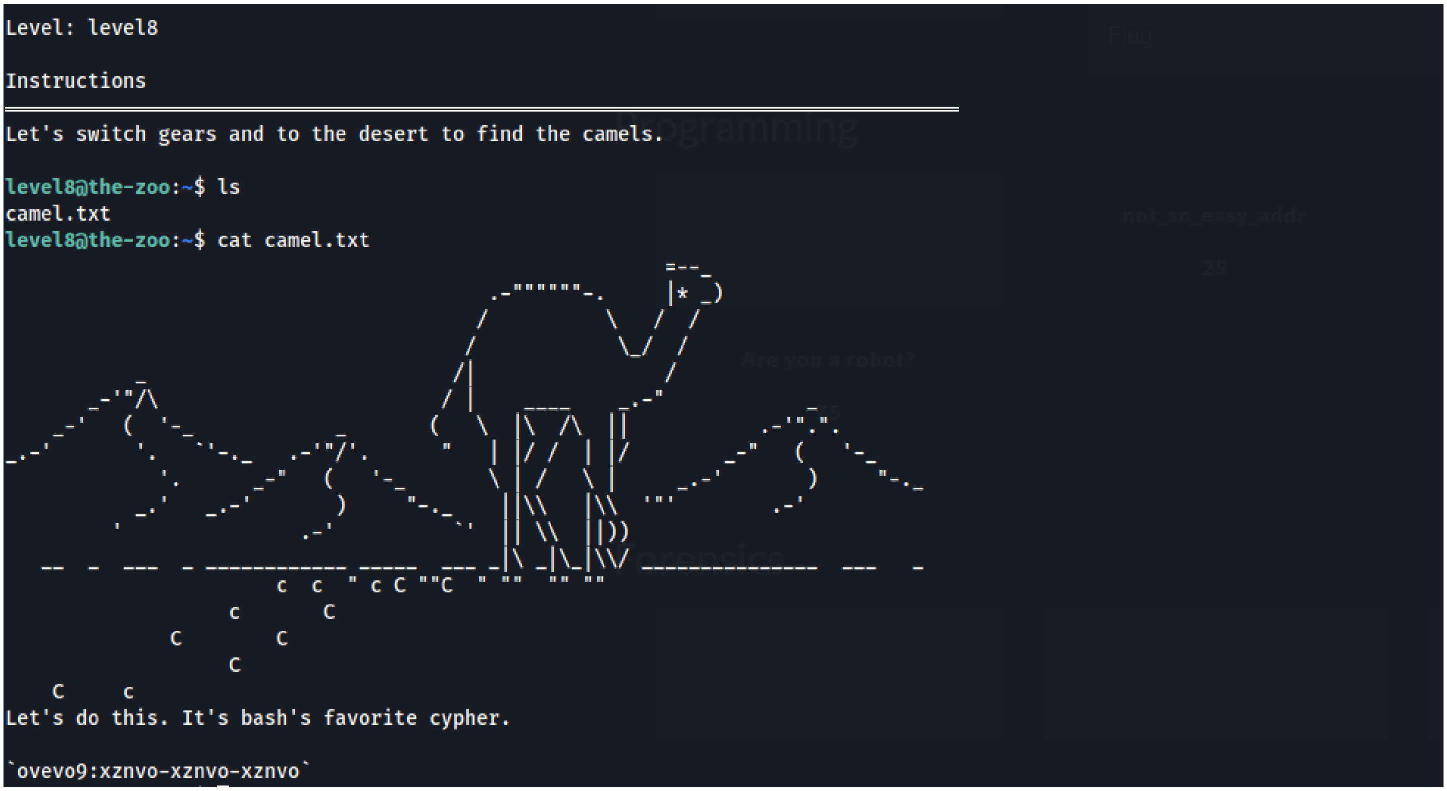
And there it is!

NeverLAN CTF 2021: The Zoo – level9

Access level9 with the flag from level8 as the password.

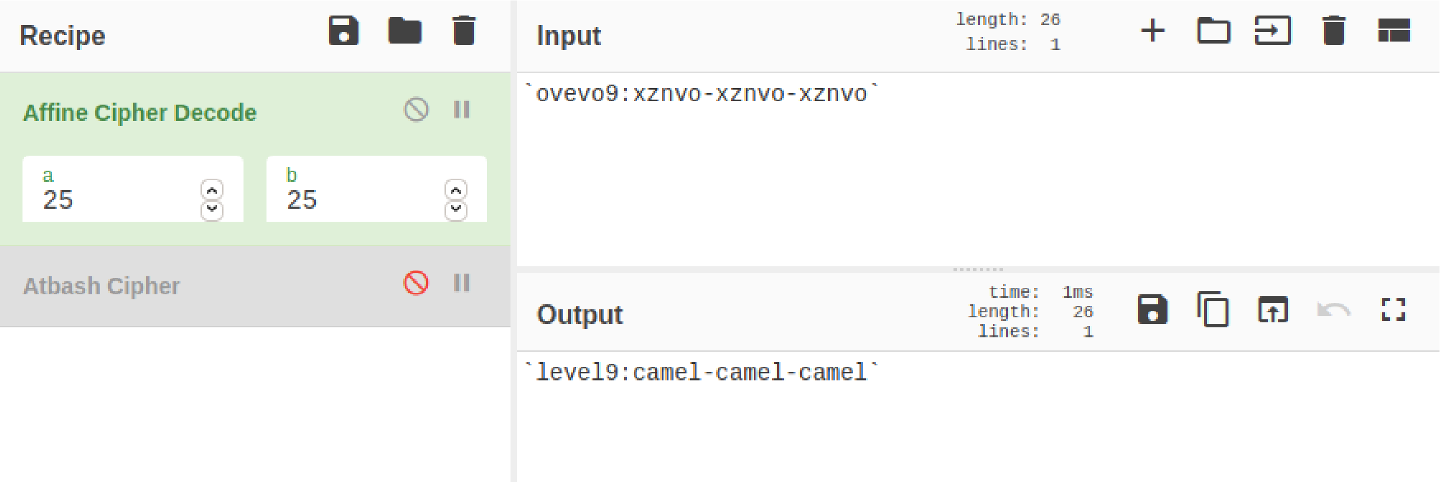


```
user@kali:~$ ssh -p 3333 level8@bashzoo.neverlanctf.com
```



```
Level: level8

Instructions
================================================================================
Let's switch gears and to the desert to find the camels.

level8@the-zoo:~$ ls
camel.txt
level8@the-zoo:~$ cat camel.txt
                                                    =--_
                                       .-""""""-.    |* _)
                                      /         \   /  /
                                     /           \_/  /
           _                        /|               /
       _-'"/\                      / |   ____    _.-"           _
    _-'   ( '-_            _      (   \  |\ /\  ||          .-'".".
_.-'       '.  `'-._   .-'"/'.     "   | |/ / | |/       _-"   (   '-_
            '.      _-"   (  '-_       \ | /  \ |    _.-'       )     "-._
          _.'   _.-'       )    "-._    ||\\  |\\  '"'       .-'
         '              .-'         `'  || \\ |))
   __  _  ___ _ ___________ _____  ___ _|\ _|\_|\V  ______________  ___   _
                      c  c  " c C ""C  " ""  "" ""
                  c       C
             C        C
                  C
    C     c
Let's do this. It's bash's favorite cypher.

`ovevo9:xznvo-xznvo-xznvo`
```

The hint lets us know that the string of text provided is “bash’s favorite cipher”. This brings to mind the Atbash Cipher, or the Affine Cipher with a and b set to 25. CyberChef has recipes for both!



Affine Cipher Decode

a 25

b 25

Input

length: 26
lines: 1

```
`ovevo9:xznvo-xznvo-xznvo`
```

Output

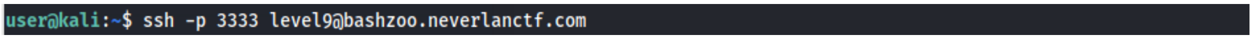
time: 1ms
length: 26
lines: 1

```
`level9:camel-camel-camel`
```

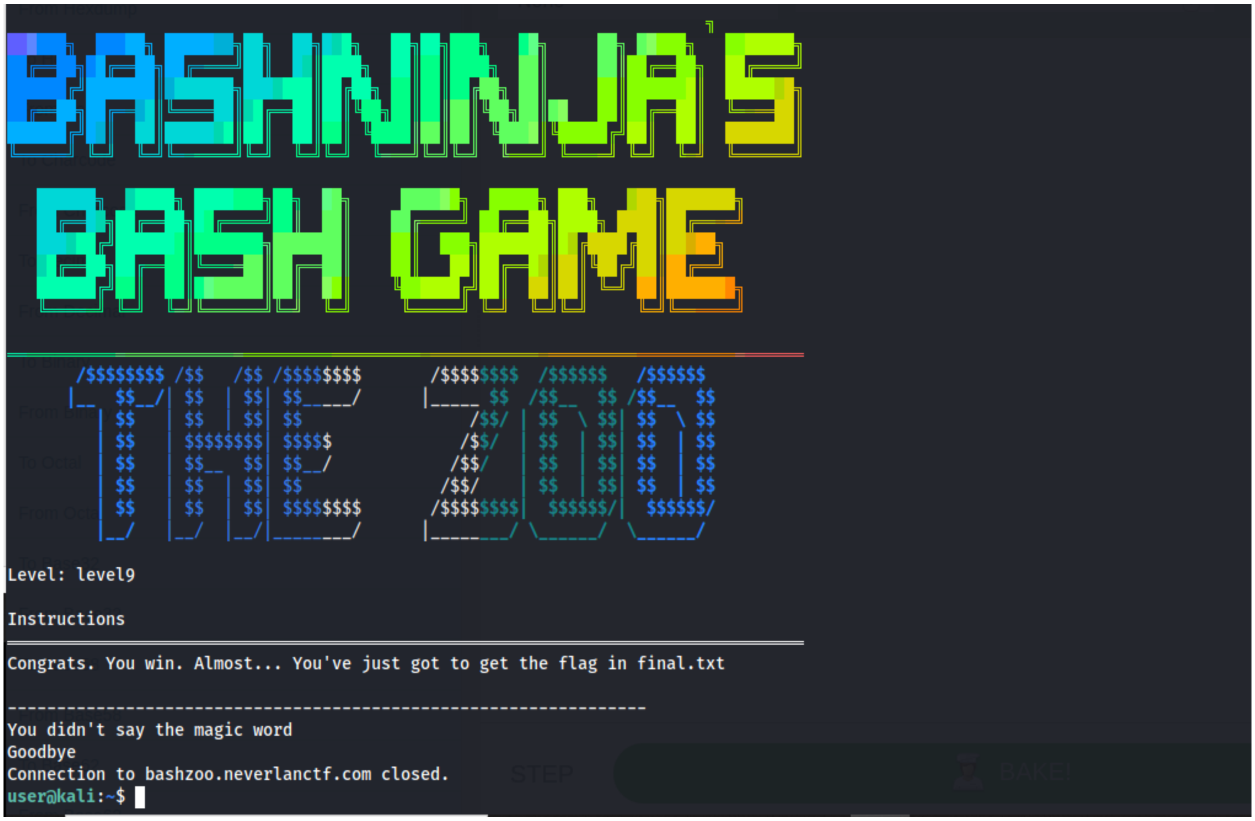
Done!

NeverLAN CTF 2021: The Zoo – final_flag

After looking at the directories, it looks like we have one more to go.

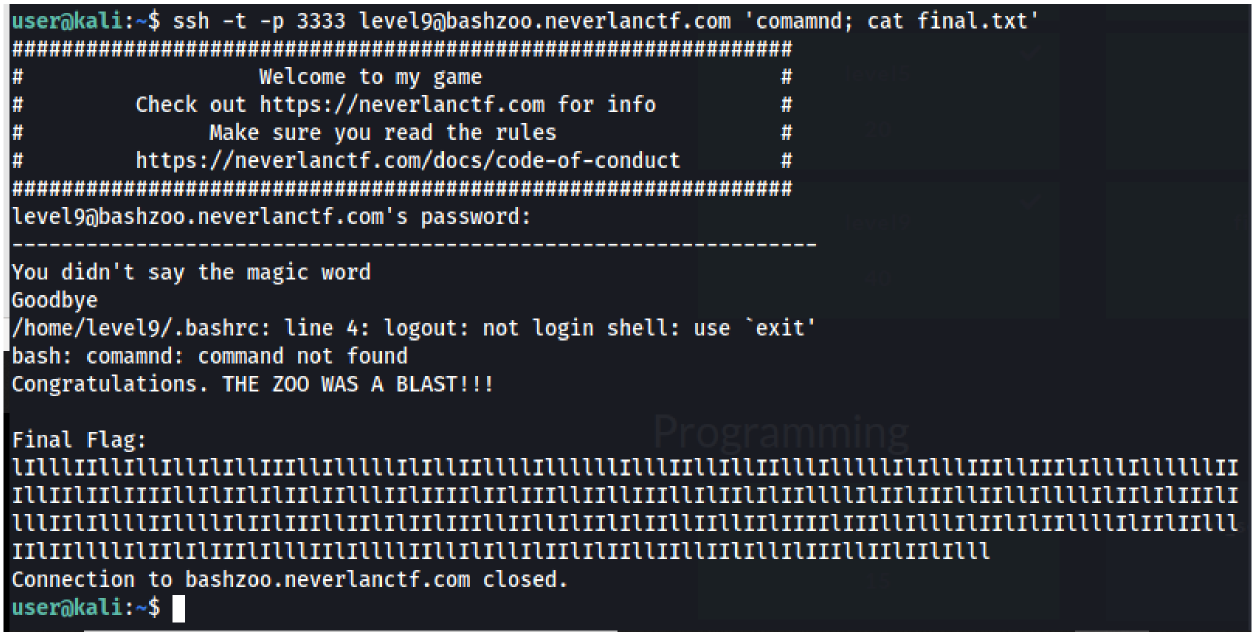


```
user@kali:~$ ssh -p 3333 level9@bashzoo.neverlanctf.com
```



```
  /$$$$$$$$ /$$   /$$ /$$$$$$$$       /$$$$$$$$  /$$$$$$   /$$$$$$
 |__  $$__/| $$  | $$| $$_____/      |_____ $$  /$$__  $$ /$$__  $$
    | $$   | $$  | $$| $$                 /$$/ | $$  \ $$| $$  \ $$
    | $$   | $$$$$$$$| $$$$$             /$$/  | $$  | $$| $$  | $$
    | $$   | $$__  $$| $$__/            /$$/   | $$  | $$| $$  | $$
    | $$   | $$  | $$| $$              /$$/    | $$  | $$| $$  | $$
    | $$   | $$  | $$| $$$$$$$$       /$$$$$$$$|  $$$$$$/|  $$$$$$/
    |__/   |__/  |__/|________/      |________/ \______/  \______/
Level: level9

Instructions

Congrats. You win. Almost... You've just got to get the flag in final.txt

-----------------------------------------------------------------
You didn't say the magic word
Goodbye
Connection to bashzoo.neverlanctf.com closed.
user@kali:~$
```

But… it doesn't hold the connection. We can include a command to run with the ssh.

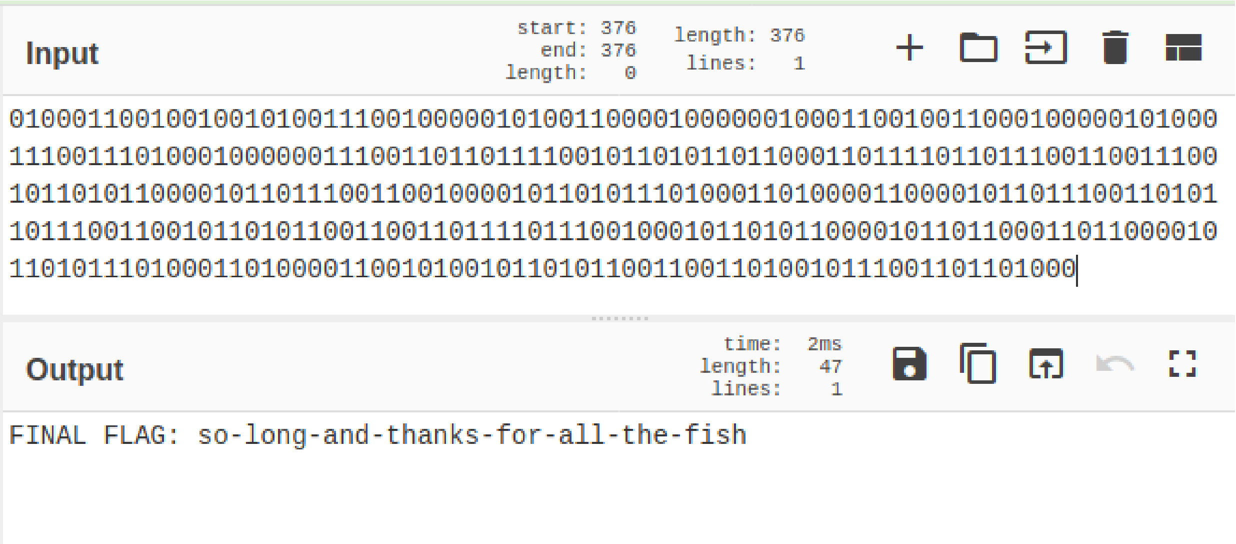


```
user@kali:~$ ssh -t -p 3333 level9@bashzoo.neverlanctf.com 'comamnd; cat final.txt'
###############################################################
#                   Welcome to my game                        #
#         Check out https://neverlanctf.com for info          #
#               Make sure you read the rules                  #
#         https://neverlanctf.com/docs/code-of-conduct        #
###############################################################
level9@bashzoo.neverlanctf.com's password:
-----------------------------------------------------------------
You didn't say the magic word
Goodbye
/home/level9/.bashrc: line 4: logout: not login shell: use `exit'
bash: comamnd: command not found
Congratulations. THE ZOO WAS A BLAST!!!

Final Flag:
lIlllIIlllIlllIlllIIIlllIlllllIlllIlIlIlllIIlllllIllllllIllIIlllIllIIlllllIllllIllllllIlIlllllIIIlllIIIlIlllIllIllllllII
IllIIlIIlIIIIlllIlIIlIlIIlIIlIllIIllIIlIIIIlIIIIIlIIlIIIIlllIIllIIIllIlllIlIIlIllIIIIlllllllIlllIlIIlIIIIllIIlllIlllllIlIIlIIlIIIlI
lllIIlIllllIIllllIIlllIllIIlIIIllIIlIIlIlIlIIlIIIIlllIIllIllIIlIIlIIllIIllIIIIIlIIIlIIIIlllIllllIllIIlIlIIlllllIlIIlIIIlll
IIlIIlllllIlIIIlIlIIIlIlllIIlllllIIlIlllllIIllIlIIIlllIIIlIIlIIlIIIllIIlllIIlIIIllIIIlllIIIlIIIlIlll
Connection to bashzoo.neverlanctf.com closed.
user@kali:~$
```

This looks awfully familiar. Lets try turning it into 1s and 0s (50% chance to get it right!)

NeverLAN CTF 2021: The Zoo – final_flag

I ‘replace all’ the respective characters in VSCode and throw the result into CyberChef.



```
01000110010010010100111001000001010011000010000001000110010011000100000101000
11100111010001000000111001101101111001011010110110001101111011011100110011100
10110101100001011011100110010000101101011101000110100001100001011011100110101
10111001100101101011001100110111101110010001011010110000101101100011011000010
11010111010001101000011001010010110101100110011010010111001101101000
```

```
FINAL FLAG: so-long-and-thanks-for-all-the-fish
```

Yay!! Finished!