SECURE CODING CSE2010

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Working with memory vulnerabilities

TASK

Download and install visual studio (recent edition)

Write a C++ code of your own to build an executable and run the same.

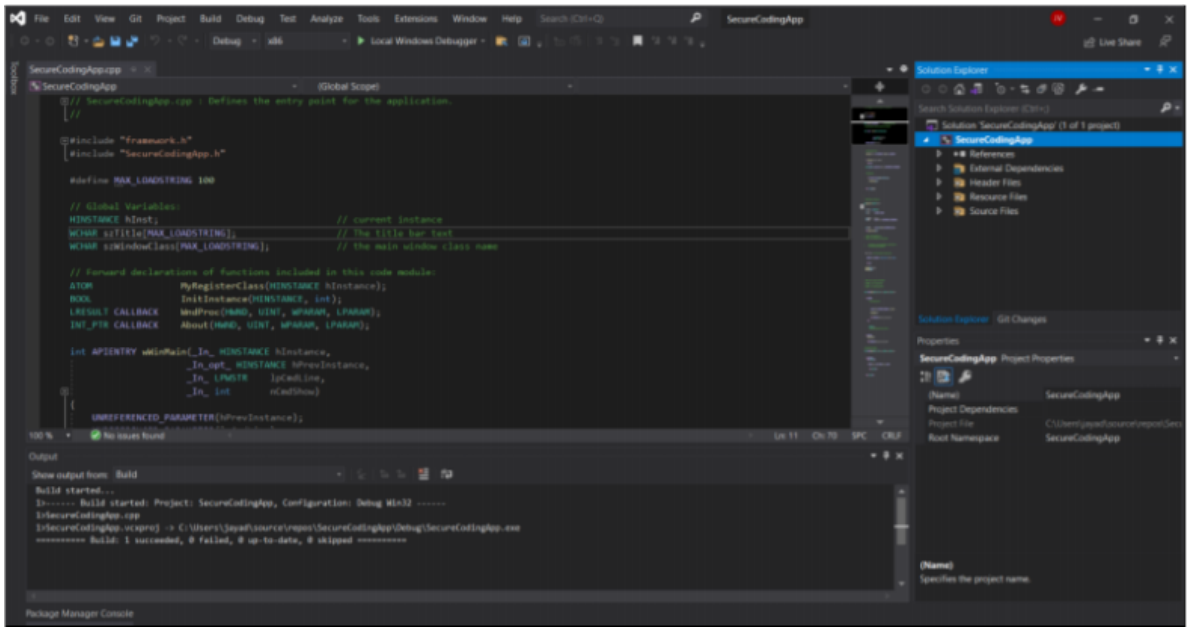
Download process explorer and verify the DEP & ASLR status

Enable software DEP, ASLR and SEH in the visual studio and rebuild the same executable

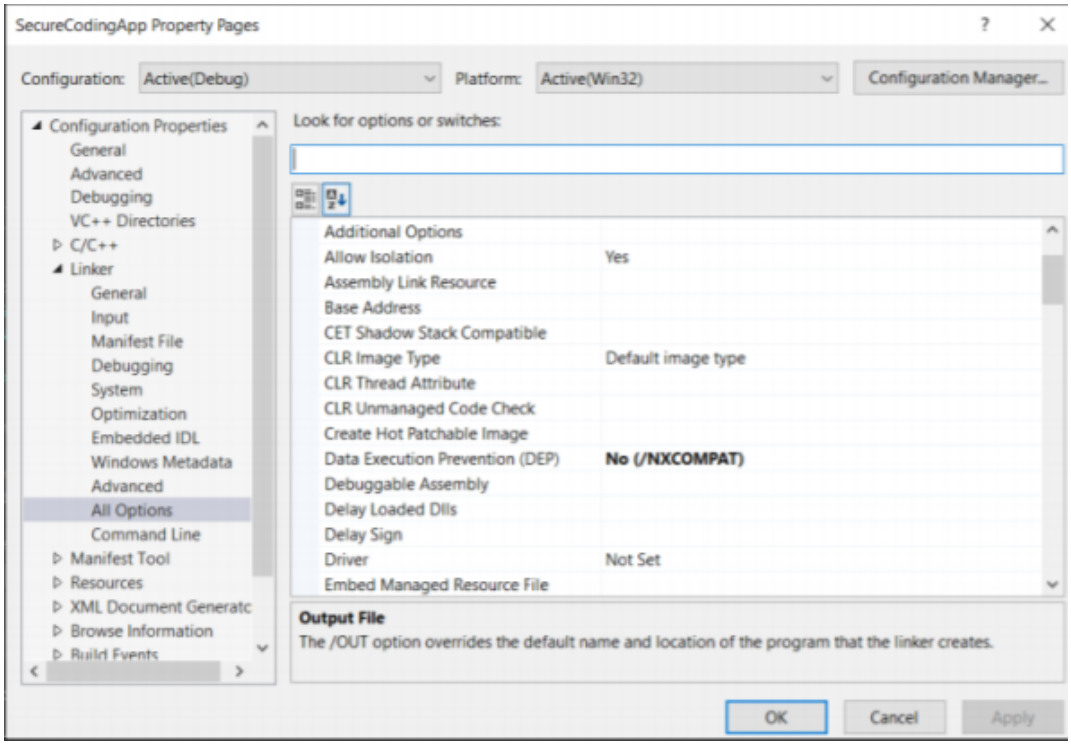
Again, verify the DEP & ASLR status in the process explorer

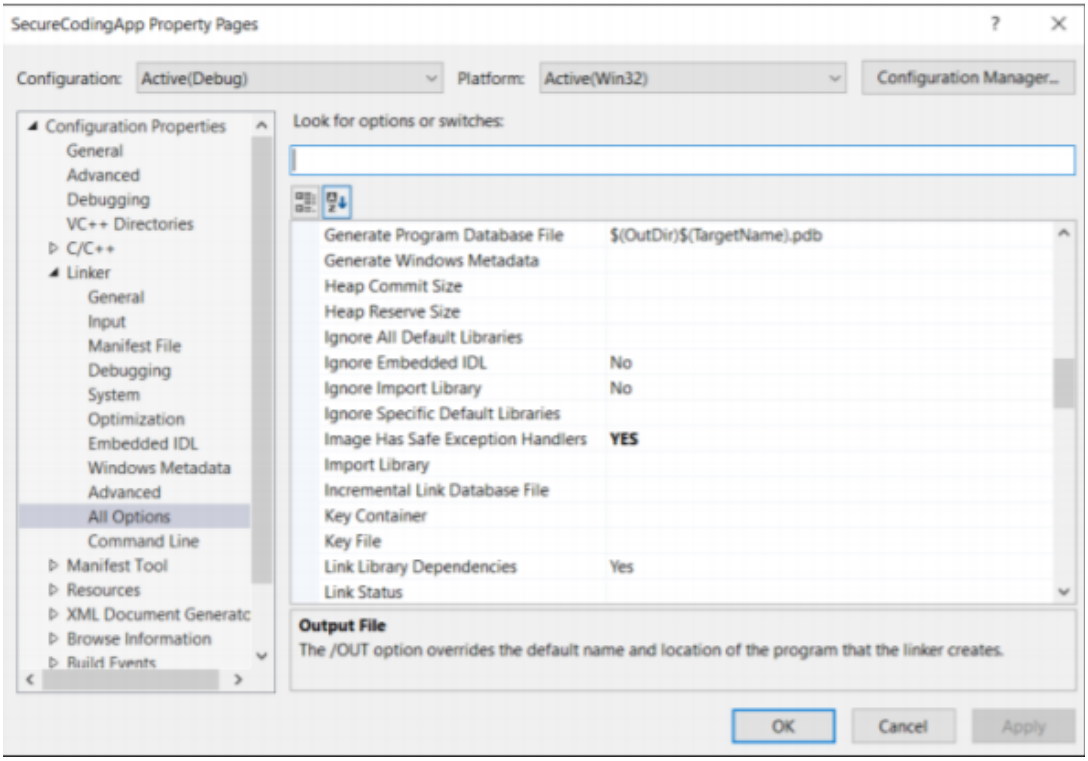
Report the same with separate screenshot - before and after enabling DEP & ASLR.

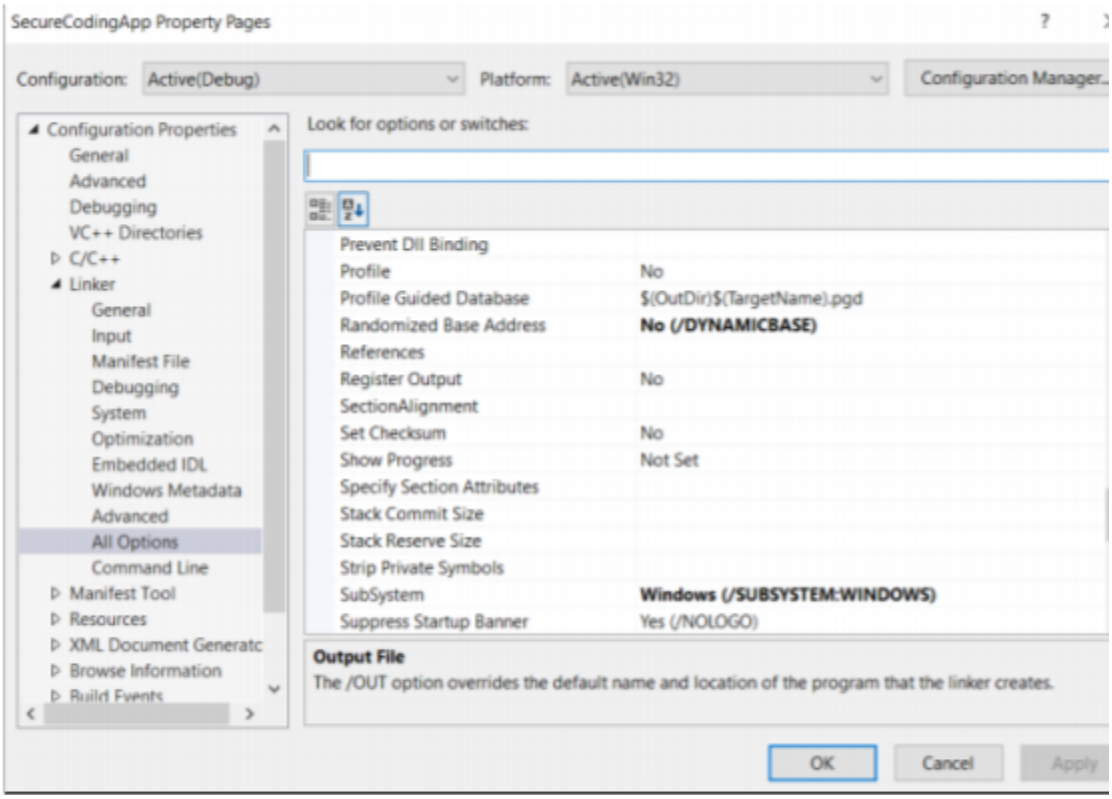
Building the executable



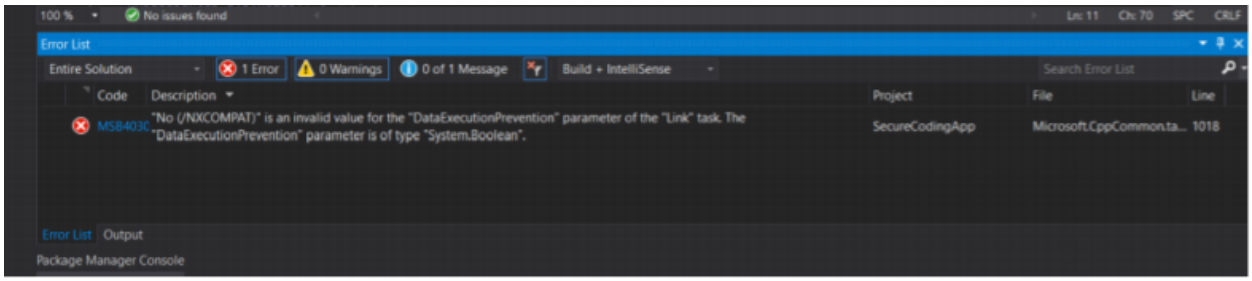
Disabling DEP and ASLR



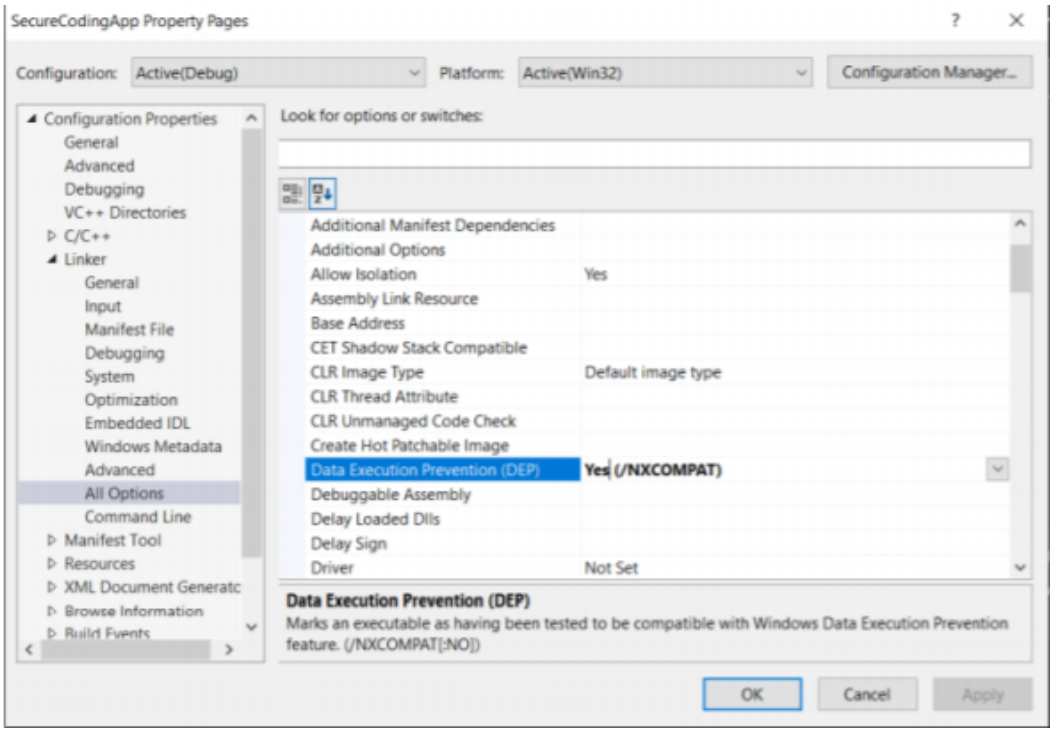


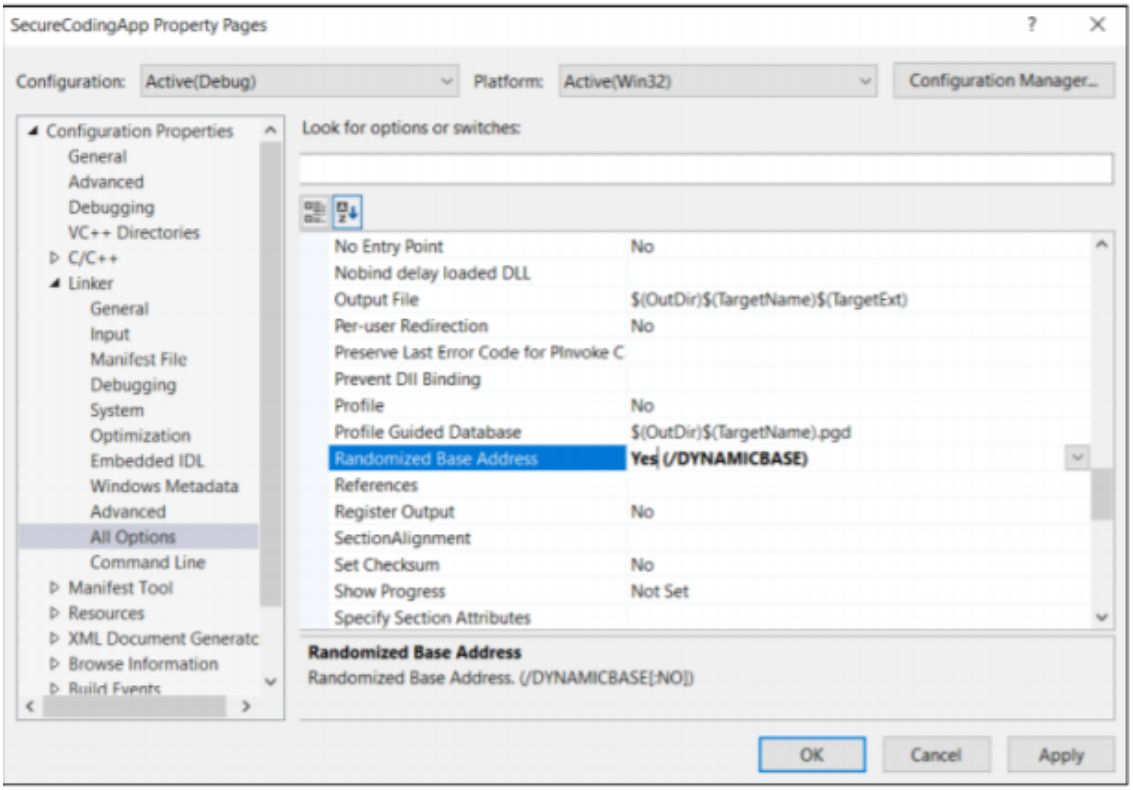


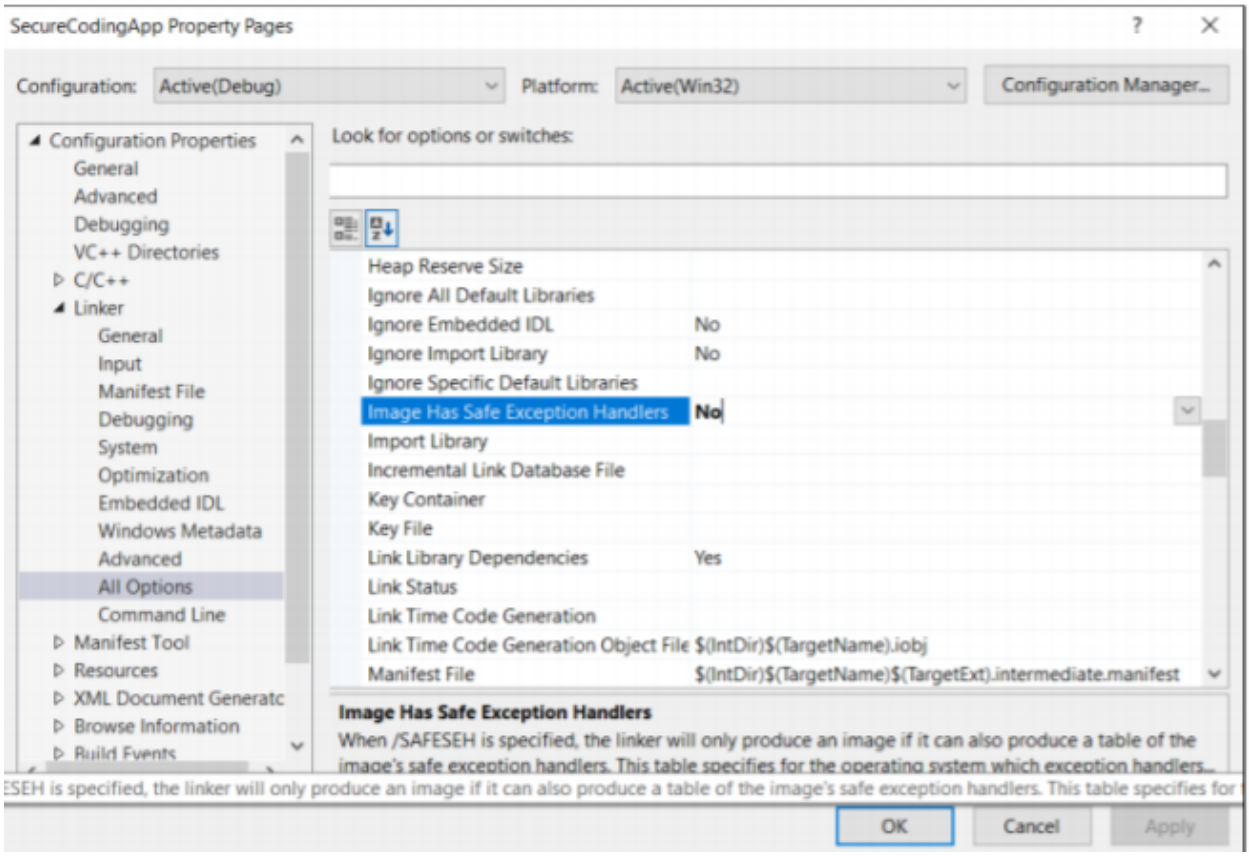
Build failed, exe not generated



Enable DEP and ASLR and re run the APP

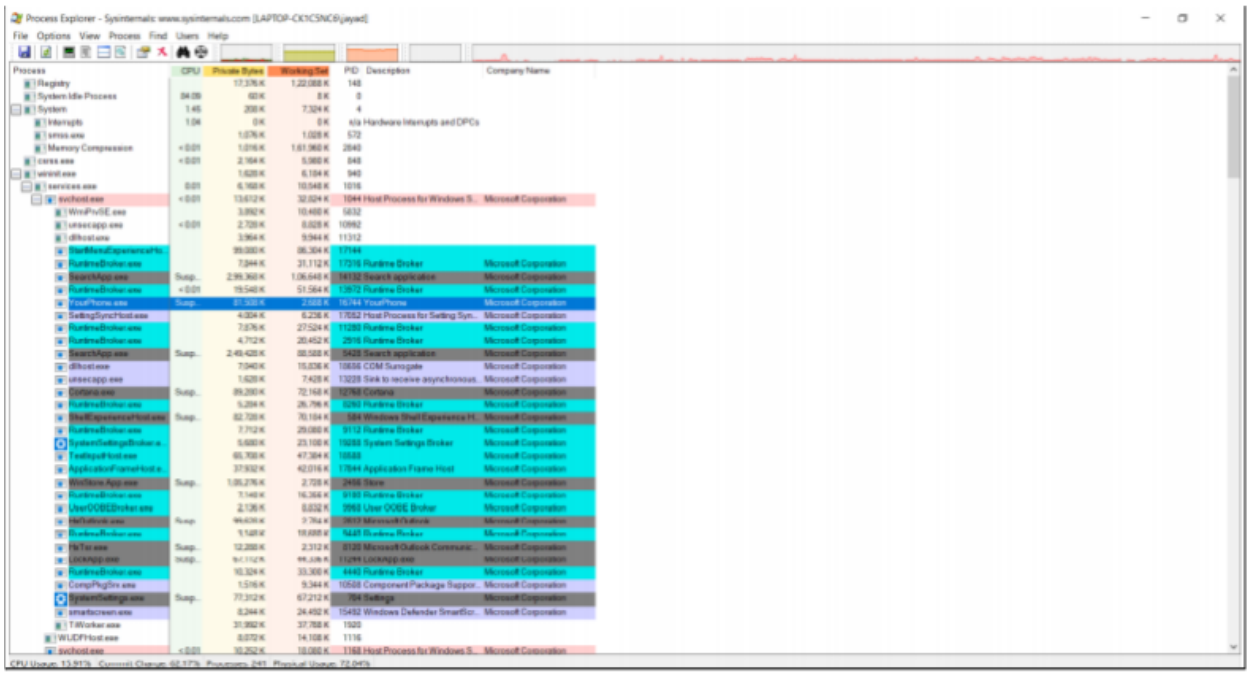


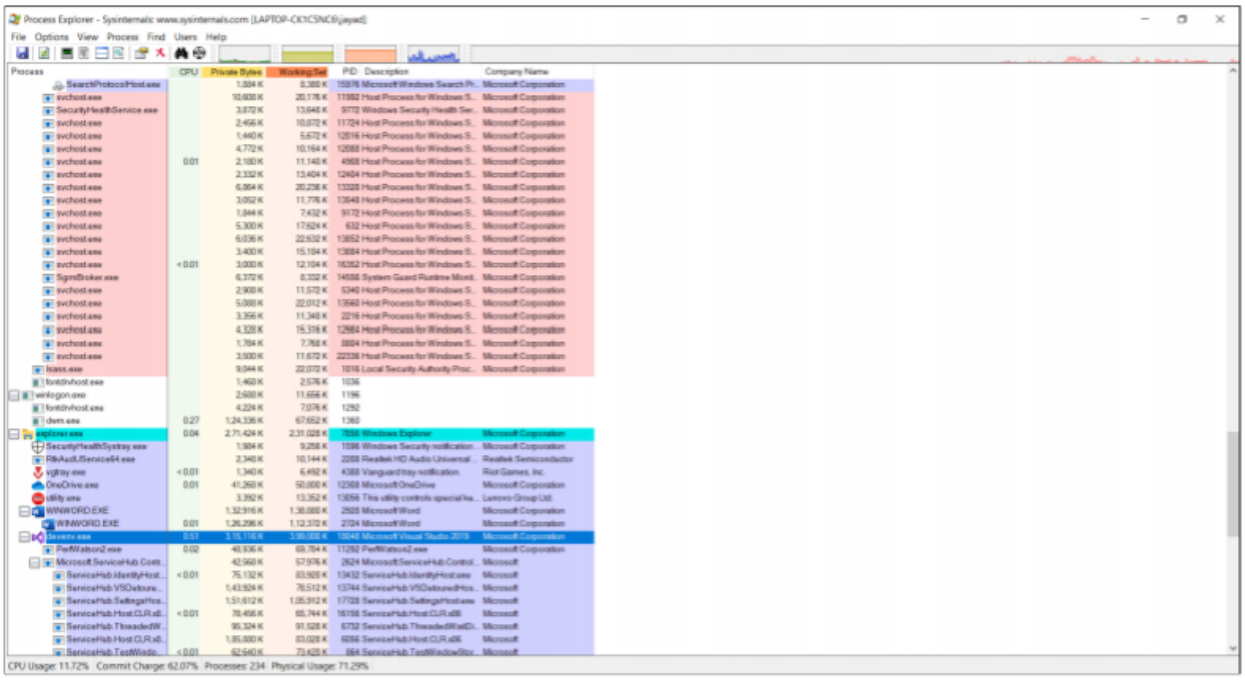


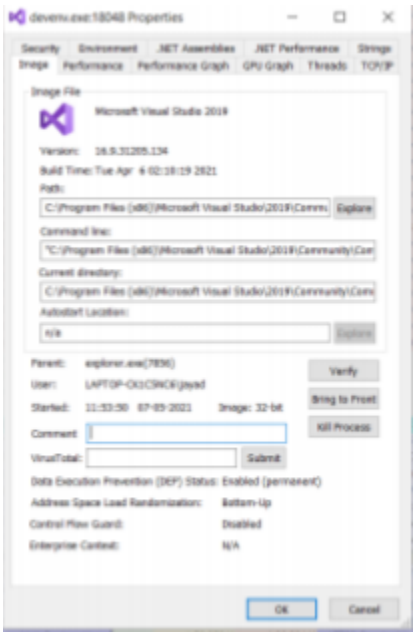


It works as supposed to

Process explorer






devenv.exe:18048 Properties
Security
Environment
.NET Assemblies
.NET Performance
Strings
Image
Performance
Performance Graph
GPU Graph
Threads
TCP/IP
Image File
Microsoft Visual Studio 2019
Version: 16.9.31205.134
Build Time: Tue Apr 6 02:18:19 2021
Path:
C:\Program Files (x86)\Microsoft Visual Studio\2019\Comm
Explore
Command line:
"C:\Program Files (x86)\Microsoft Visual Studio\2019\Community\Com
Current directory:
C:\Program Files (x86)\Microsoft Visual Studio\2019\Community\Com
Autostart Location:
n/a
Explore
Parent: explorer.exe(7836)
User: LAPTOP-CK1CSMC8\jayad
Started: 11:53:50 07-05-2021 Image: 32-bit
Verify
Bring to Front
Kill Process
Comment
VirusTotal:
Submit
Data Execution Prevention (DEP) Status: Enabled (permanent)
Address Space Load Randomization: Bottom-Up
Control Flow Guard: Disabled
Enterprise Context: N/A
OK
Cancel