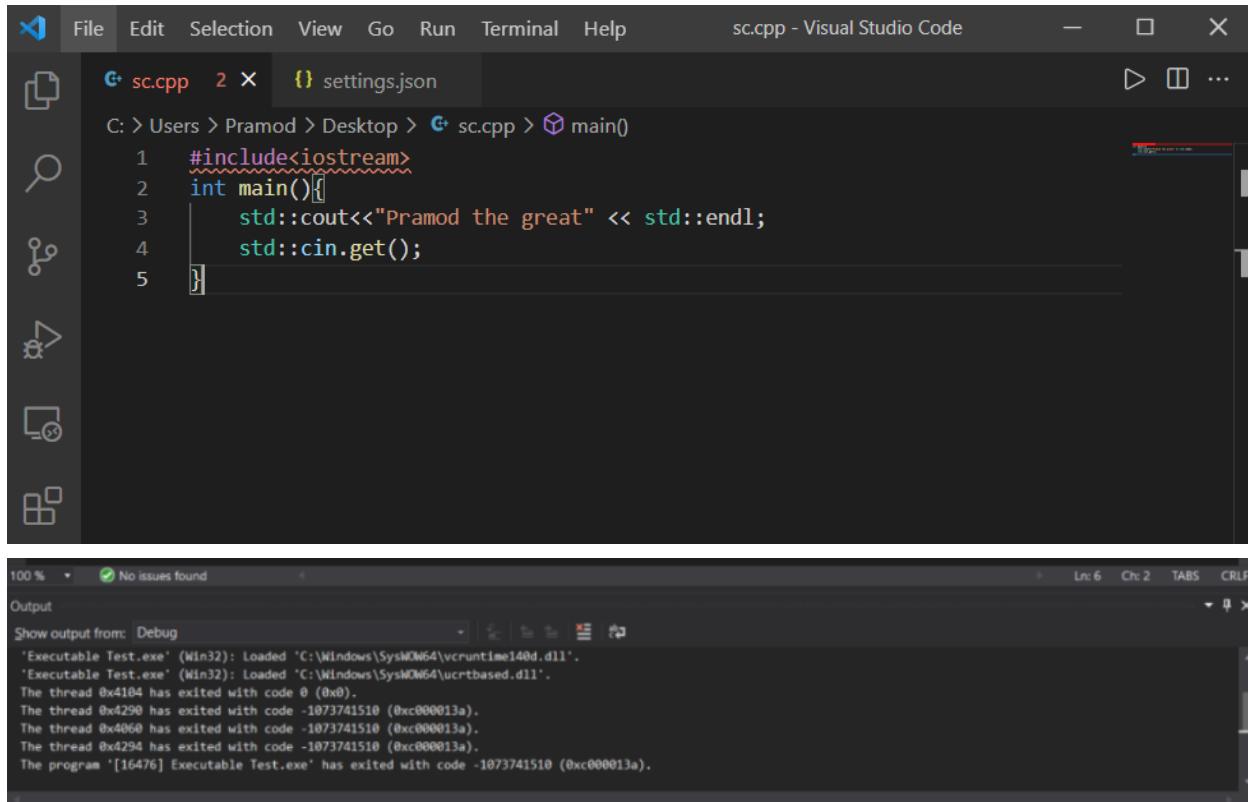


## LAB-11: SECURE CODING

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### **Step 1:**

Install visual studio and execute a C++ script.



```
#include<iostream>
int main(){
    std::cout<<"Pramod the great" << std::endl;
    std::cin.get();
}
```

C: > Users > Pramod > Desktop > sc.cpp > main()

No issues found

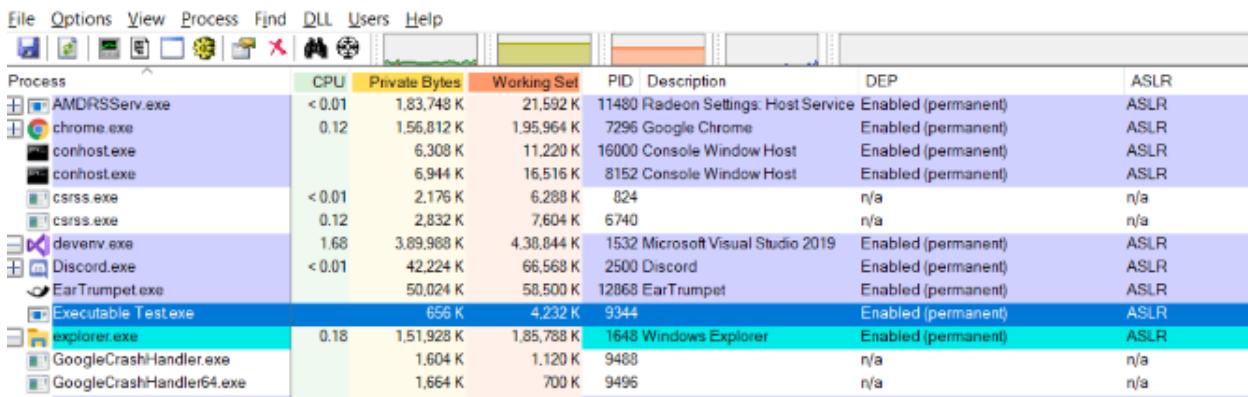
Output

Show output from: Debug

```
'Executable Test.exe' (Win32): Loaded 'C:\Windows\SysWOW64\vcrunrtime140d.dll'.
'Executable Test.exe' (Win32): Loaded 'C:\Windows\SysWOW64\ucrtbased.dll'.
The thread 0x4104 has exited with code 0 (0x0).
The thread 0x4290 has exited with code -1073741510 (0xc000013a).
The thread 0x4060 has exited with code -1073741510 (0xc000013a).
The thread 0x4294 has exited with code -1073741510 (0xc000013a).
The program '[16476] Executable Test.exe' has exited with code -1073741510 (0xc000013a).
```

### **Step 2:**

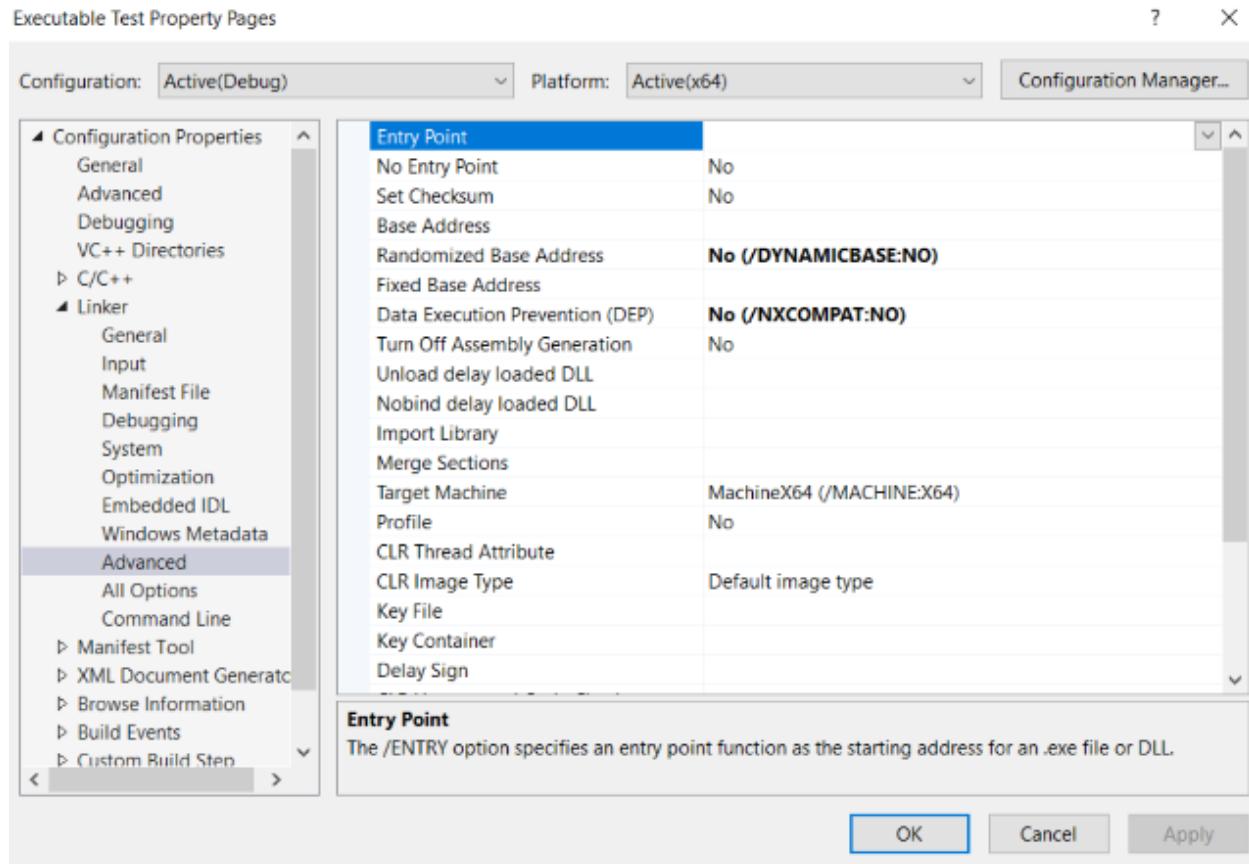
Download process explorer to verify the DEP and ASLR status.



Process	CPU	Private Bytes	Working Set	PID	Description	DEP	ASLR
AMDRSServ.exe	< 0.01	1,83,748 K	21,592 K	11480	Radeon Settings: Host Service	Enabled (permanent)	ASLR
chrome.exe	0.12	1,56,812 K	195,964 K	7296	Google Chrome	Enabled (permanent)	ASLR
conhost.exe		6,308 K	11,220 K	16000	Console Window Host	Enabled (permanent)	ASLR
conhost.exe		6,944 K	16,516 K	8152	Console Window Host	Enabled (permanent)	ASLR
csrss.exe	< 0.01	2,176 K	6,288 K	824		n/a	n/a
csrss.exe	0.12	2,832 K	7,604 K	6740		n/a	n/a
devenv.exe	1.68	3,89,968 K	4,38,844 K	1532	Microsoft Visual Studio 2019	Enabled (permanent)	ASLR
Discord.exe	< 0.01	42,224 K	66,568 K	2500	Discord	Enabled (permanent)	ASLR
EarTrumpet.exe		50,024 K	58,500 K	12068	EarTrumpet	Enabled (permanent)	ASLR
Executable Test.exe		656 K	4,232 K	9344		Enabled (permanent)	ASLR
explorer.exe	0.18	1,51,928 K	1,85,788 K	1648	Windows Explorer	Enabled (permanent)	ASLR
GoogleCrashHandler.exe		1,604 K	1,120 K	9488		n/a	n/a
GoogleCrashHandler64.exe		1,664 K	700 K	9496		n/a	n/a

### Step 3:

Disable software DEP, ASLR, and SEH in the visual studio.



Process Explorer - Sysinternals: www.sysinternals.com [GARRICK-LAPTOP]\dynam]							
Process	CPU	Private Bytes	Working Set	PID	Description	DEP	ASLR
EarTrumpet.exe		49,594 K	58,392 K	1,266	EarTrumpet	Enabled (permanent)	ASLR
soft_oobe.exe		1,726 K	7,800 K	4,008	Immersive Dynamic Tuning Serv...	n/a	ASLR
Executable Test.exe	0.21	540 K	3,963 K	9626	Enabled (permanent)	ASLR	ASLR
explorer.exe		1,55,452 K	1,21,756 K	1,648	Windows Explorer	Enabled (permanent)	ASLR
TaskScheduler.exe		3,986 K	8,922 K	1752	n/a	n/a	n/a
KernelHost.exe		1,436 K	3,184 K	1,158	n/a	n/a	n/a
GeorgieCrashHandler.exe		1,604 K	1,560 K	9408	n/a	n/a	n/a
GeorgieCrashHandler4.exe		1,664 K	700 K	9496	n/a	n/a	n/a
HotMonitor.exe		1,204 K	4,968 K	4,768	HotMonitor.exe Application	n/a	ASLR
RPCsvc.exe		22,356 K	68,740 K	8,998	RPC Service	Enabled (permanent)	ASLR
IGCTray.exe	< 0.01	52,016 K	63,680 K	6,654	IGC Tray	Enabled (permanent)	ASLR
igfxCLService.exe		2,126 K	8,748 K	15,72	igfxCLService Module	n/a	ASLR
ghcm.exe		6,140 K	23,672 K	1,3552	igfMEM Module	Enabled (permanent)	ASLR
IntiCpHcPvSvc.exe		1,452 K	7,472 K	1,776	Intel HD Graphics Drivers for ...	n/a	ASLR
IntiCpHcPvSvc.exe		1,446 K	6,912 K	1,604	IntiCpHcPvSvc Executable	n/a	ASLR
Interrupts	0.42	0 K	0 K	n/a	Hardware Interrupts and DPCs	n/a	n/a
nt_service.exe		1,248 K	6,520 K	9,728	Immersive Dynamic Application	n/a	ASLR
ghub.exe	< 0.01	25,640 K	36,696 K	1,0732	LGHub	Enabled (permanent)	ASLR
ghub.exe		33,404 K	44,292 K	1,2228	LGHub	Enabled (permanent)	ASLR
ghub.exe		19,464 K	28,584 K	7,152	LGHub	Enabled (permanent)	ASLR
ghub.exe		9,656 K	29,632 K	9,476	LGHub	Enabled (permanent)	ASLR

Name	Description	Company Name	Path
Executable Test.exe	Windows NT BASE API Client DLL	Microsoft Corporation	C:\Users\dynam\source\repos\Executable Test\bin\Debug\
kernel32.dll	Windows NT BASE API Client DLL	Microsoft Corporation	C:\Windows\System32\kernel32.dll
user32.dll	Windows NT BASE API Client DLL	Microsoft Corporation	C:\Windows\System32\user32.dll
locale.nls			C:\Windows\System32\locale.nls
msasn1.dll	Microsoft C Runtime Library	Microsoft Corporation	C:\Windows\System32\msasn1.dll
ole32.dll	OLE API Layer DLL	Microsoft Corporation	C:\Windows\System32\ole32.dll
version.dll	Microsoft C Runtime Library	Microsoft Corporation	C:\Windows\System32\version.dll
version.dll	Microsoft C Runtime Library	Microsoft Corporation	C:\Windows\System32\version.dll
version.dll	Microsoft C Runtime Library	Microsoft Corporation	C:\Windows\System32\version.dll

Here DEP is still running even after DEP and ASLR properties are disabled.