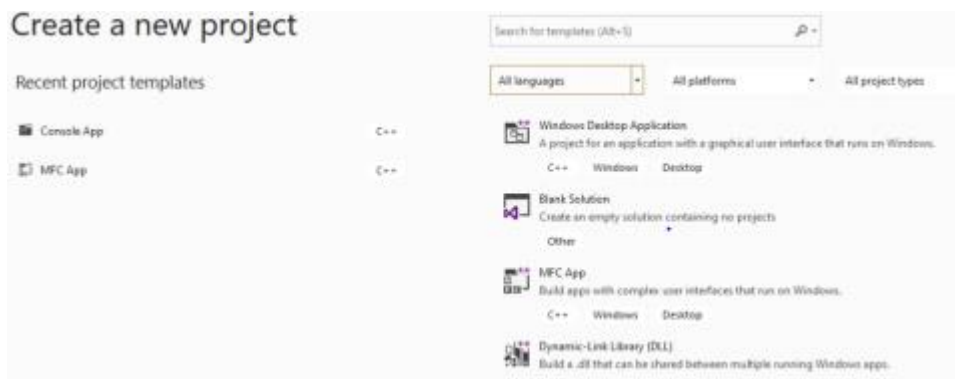


SECURE CODING LAB-11

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1.Download visual studio.



C++ code in an executable file

```
1 // lab.cpp : This file contains the 'main'
2 //
3
4 #include <iostream>
5 using namespace std;
6
7 int main()
8 {
9     int number;
10
11     cout << "Enter an integer: ";
12     cin >> number;
13
14     cout << "You entered " << number;
15     return 0;
16 }
17
```

```
Enter an integer: 5
You entered 5
```

Build or debug

```

Output
Show output from: Debug
'lab.exe' (Win32): Loaded 'C:\Windows\SysWOW64\cryptbase.dll'.
'lab.exe' (Win32): Loaded 'C:\Windows\SysWOW64\bcryptprimitives.dll'.
'lab.exe' (Win32): Loaded 'C:\Windows\SysWOW64\sechost.dll'.
The thread 0x68 has exited with code 0 (0x0).
The thread 0x347c has exited with code 0 (0x0).
The thread 0x28cc has exited with code 0 (0x0).
The program '[6620] lab.exe' has exited with code 0 (0x0).

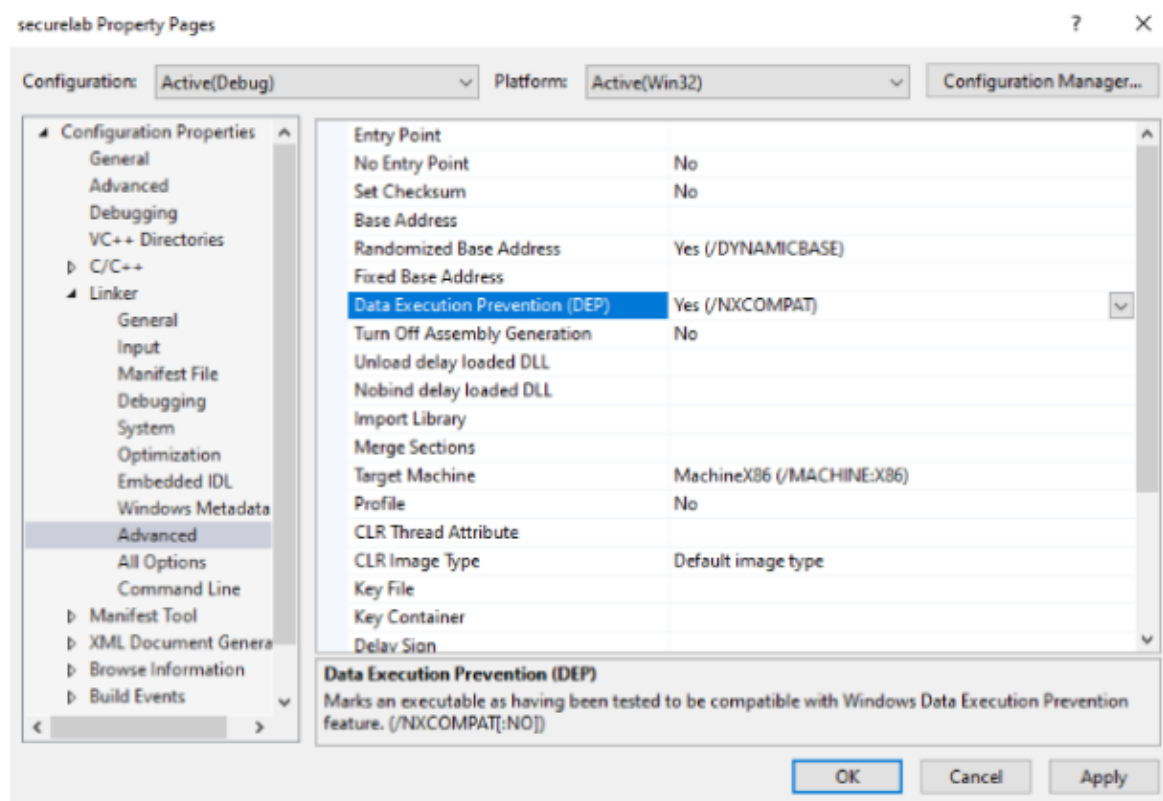
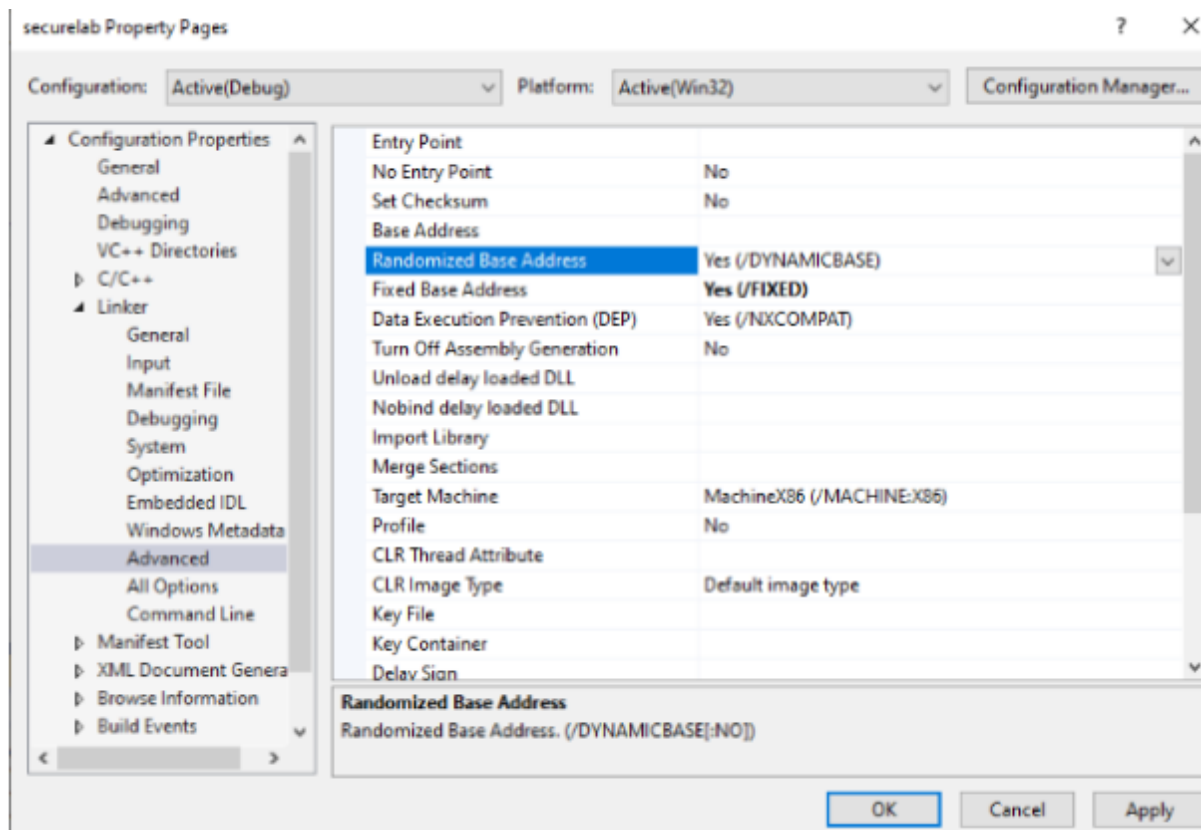
```

3.Download the process and explorer and verify the DEP and ASLR status.

Process	CPU	Private Bytes	Working Set	PID	Description	Company Name	DEP	ASLR
Acrobat/NotificationClient.exe	Susp...	6,796 K	3,128 K	8420			Enabled (permane...	ASLR
cmd.exe		3,440 K	2,412 K	4408			n/a	n/a
conhost.exe	< 0.01	2,256 K	5,620 K	4508			n/a	n/a
conhost.exe	< 0.01	6,720 K	5,416 K	5036			n/a	n/a
conhost.exe	< 0.01	6,744 K	5,232 K	5132			n/a	n/a
conhost.exe	< 0.01	6,712 K	5,844 K	6312			n/a	n/a
conhost.exe	< 0.01	6,924 K	5,792 K	8208			n/a	n/a
cars.exe	< 0.01	1,908 K	4,052 K	632			n/a	n/a
cars.exe	0.33	2,580 K	5,008 K	736			n/a	n/a
cfmon.exe	0.29	4,324 K	12,564 K	6532			Enabled (permane...	n/a
dasHost.exe		3,816 K	8,868 K	2576			n/a	n/a
dllhost.exe		3,976 K	8,100 K	14216			n/a	n/a
dwm.exe	1.27	64,068 K	61,132 K	1224			n/a	n/a
fontdrvhost.exe		5,592 K	8,664 K	384			n/a	n/a
fontdrvhost.exe		1,728 K	1,816 K	456			n/a	n/a
GoogleCrashHandler.exe		1,712 K	916 K	9972			n/a	n/a
GoogleCrashHandler64.exe		1,732 K	68 K	10204			n/a	n/a

Process	CPU	Private Bytes	Working Set	PID	Description	Company Name	DEP	ASLR
ServiceHub Threaded Wait Dialo...	2.77	50,538 K	28,164 K	15496	ServiceHub Threaded...	Microsoft	Enabled (permane...	ASLR
ServiceHub VSDetouredHost.exe	0.05	37,320 K	16,936 K	12900	ServiceHub VSDetour...	Microsoft	Enabled (permane...	ASLR
ApplicationFrameHost.exe		10,444 K	18,844 K	9492	Application Frame Host	Microsoft Corporation	Enabled (permane...	ASLR
CompFgSrv.exe		1,828 K	7,580 K	7976	Component Package ...	Microsoft Corporation	Enabled (permane...	ASLR
conhost.exe		7,240 K	16,192 K	1956	Console Window Host	Microsoft Corporation	Enabled (permane...	ASLR
devenv.exe	3.59	340,968 K	2,91,004 K	11536	Microsoft Visual Studio ...	Microsoft Corporation	Enabled (permane...	ASLR
dllhost.exe		5,460 K	11,920 K	9744	COM Surrogate	Microsoft Corporation	Enabled (permane...	ASLR
dllhost.exe		4,004 K	9,444 K	12948	COM Surrogate	Microsoft Corporation	n/a	ASLR
explorer.exe	0.97	80,656 K	1,18,704 K	7928	Windows Explorer	Microsoft Corporation	Enabled (permane...	ASLR
lsass.exe		8,280 K	14,484 K	884	Local Security Authort...	Microsoft Corporation	n/a	ASLR
mdac.exe		2,840 K	6,852 K	1240	Microsoft Distributed T...	Microsoft Corporation	n/a	ASLR

Now, enable the software DEP , ASLR and SEH in the visual studio and rebuild the same executable.



Now verify the process explorer of DEP and ASLR.

File Options View Process Find Handle Users Help								
Process	CPU	Private Bytes	Working Set	PID	Description	Company Name	DEP	ASLR
devany.exe	3.53	3,633,920 K	3,571,132 K	11536	Microsoft Visual Studio...	Microsoft Corporation	Enabled (permane...	ASLR
dllhost.exe		5,360 K	10,363 K	5744	COM Surrogate	Microsoft Corporation	Enabled (permane...	ASLR
dllhost.exe	< 0.01	3,952 K	8,776 K	12848	COM Surrogate	Microsoft Corporation	n/a	ASLR
explorer.exe	1.77	80,344 K	1,08,320 K	7524	Windows Explorer	Microsoft Corporation	Enabled (permane...	ASLR
lsass.exe	0.03	8,256 K	14,132 K	884	Local Security Authent...	Microsoft Corporation	n/a	ASLR
MSBuild.exe		20,472 K	43,592 K	32	MSBuild.exe	Microsoft Corporation	Enabled (permane...	ASLR
msdtc.exe	< 0.01	2,804 K	6,608 K	1240	Microsoft Distributed T...	Microsoft Corporation	n/a	ASLR
MsiMpEng.exe	1.73	2,83,644 K	1,68,420 K	4304	Antimalware Service E...	Microsoft Corporation	n/a	ASLR
mspdbsrv.exe		15,152 K	14,372 K	5896	Microsoft® Program D...	Microsoft Corporation	Enabled (permane...	ASLR
NlsSvc.exe	< 0.01	3,872 K	6,790 K	6292	Microsoft Network Re...	Microsoft Corporation	n/a	ASLR
OneDrive.exe		25,136 K	19,336 K	11100	Microsoft OneDrive	Microsoft Corporation	Enabled (permane...	ASLR
PerfWatson2.exe	0.02	43,852 K	28,996 K	12236	PerfWatson2.exe	Microsoft Corporation	Enabled (permane...	ASLR
PresentationFontCache.exe	< 0.01	25,332 K	7,968 K	7548	PresentationFontCash...	Microsoft Corporation	n/a	ASLR
rundll32.exe		1,632 K	6,540 K	13832	Windows host process...	Microsoft Corporation	Enabled (permane...	ASLR