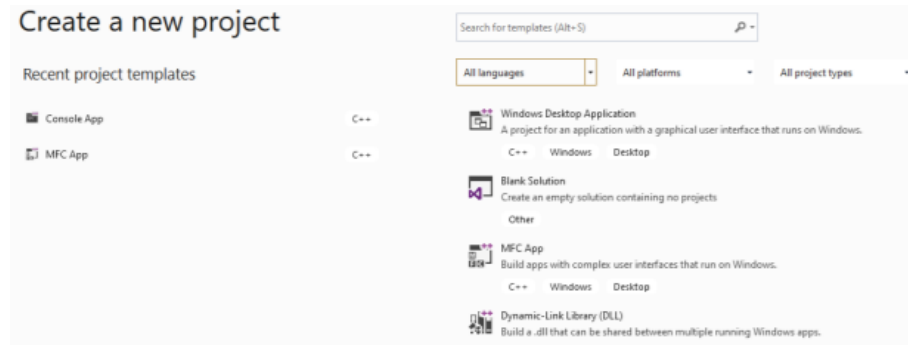


SECURE CODING

LAB 11

APUROOPA NATTE
18BCE7055

Creating a New Project:



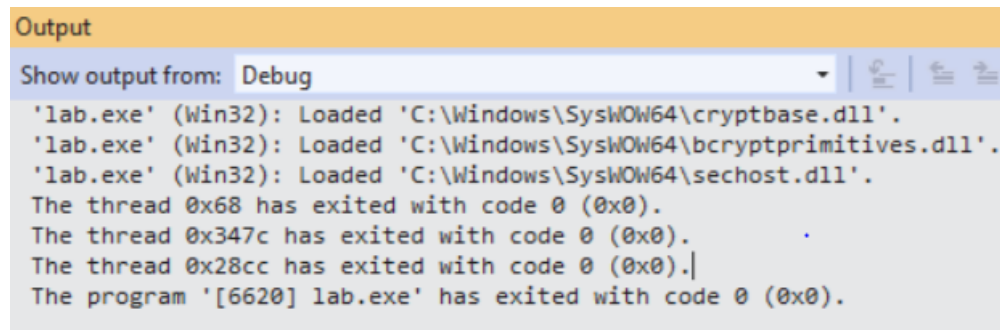
```
#include <iostream>
using namespace std;

int main()
{
    int number;

    cout << "Enter an integer: ";
    cin >> number;

    cout << "You entered " << number;
    return 0;
}
```

```
Enter an integer: 3
You entered 3
```



Download process explorer:

Process Explorer - Sysinternals: www.sysinternals.com [NAIMISHA\Naimesha Segu]

File Options View Process Find Handle Users Help

Process	CPU	Private Bytes	Working Set	PID	Description	Company Name	DEP	ASLR
RemoteNotificationClient.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
csrss.exe	< 0.01	1,908 K	4,052 K	632			n/a	n/a
csrss.exe	0.33	2,580 K	5,008 K	736			n/a	n/a
ctfmon.exe	0.29	4,324 K	12,564 K	6532			Enabled (permane...	n/a
dashHost.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
Internet...	2.21	n/a	n/a	n/a	Hardware Interm...		n/a	n/a

Process explorer and verify the DEP & ASLR status :

File Options View Process Find DLL Users Help

Process	CPU	Private Bytes	Working Set	PID	Description	Company Name	DEP	ASLR
ServiceHub.ThreadedWaitDialo...	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
CompPkgSrv.exe		1,828 K	7,500 K	7975	Component Package ...	Microsoft Corporation	Enabled (permane...	ASLR
conhost.exe		7,240 K	16,192 K	1556	Console Window Host	Microsoft Corporation	Enabled (permane...	ASLR
devenv.exe	3.59	3,48,968 K	2,91,084 K	11536	Microsoft Visual Studio...	Microsoft Corporation	Enabled (permane...	ASLR
dllhost.exe		5,450 K	11,920 K	9744	COM Surrogate	Microsoft Corporation	Enabled (permane...	ASLR
dllhost.exe		4,004 K	9,444 K	12848	COM Surrogate	Microsoft Corporation	n/a	ASLR
explorer.exe	0.97	80,656 K	1,18,704 K	7924	Windows Explorer	Microsoft Corporation	Enabled (permane...	ASLR
lsass.exe		8,280 K	14,484 K	884	Local Security Authorit...	Microsoft Corporation	n/a	ASLR
msdtc.exe		2,840 K	6,852 K	1240	Microsoft Distributed T...	Microsoft Corporation	n/a	ASLR

Enable software DEP, ASLR and SEH in the visual studio and rebuild the same executable Configuration Properties > Linker > Advanced property page Modifying the Randomized Base Address property.

Configuration: Active(Debug) Platform: Active(Win32) Configuration Manager...

Configuration Properties

- General
- Advanced
- Debugging
- VC++ Directories
- C/C++
- Linker
 - General
 - Input
 - Manifest File
 - Debugging
 - System
 - Optimization
 - Embedded IDL
 - Windows Metadata
 - Advanced**
 - All Options
 - Command Line
- Manifest Tool
- XML Document Genera
- Browse Information
- Build Events

Entry Point	
No Entry Point	No
Set Checksum	No
Base Address	
Randomized Base Address	Yes (/DYNAMICBASE)
Fixed Base Address	Yes (/FIXED)
Data Execution Prevention (DEP)	Yes (/NXCOMPAT)
Turn Off Assembly Generation	No
Unload delay loaded DLL	
Nobind delay loaded DLL	
Import Library	
Merge Sections	
Target Machine	MachineX86 (/MACHINE:X86)
Profile	No
CLR Thread Attribute	
CLR Image Type	Default image type
Key File	
Key Container	
Delay Sign	

Randomized Base Address
Randomized Base Address. (/DYNAMICBASE[:NO])

OK Cancel Apply