

# **SECURE CODING LAB-11**

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## **Lab experiment – Creating secure and safe executable**

**Download and install visual studio (recent edition)**

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

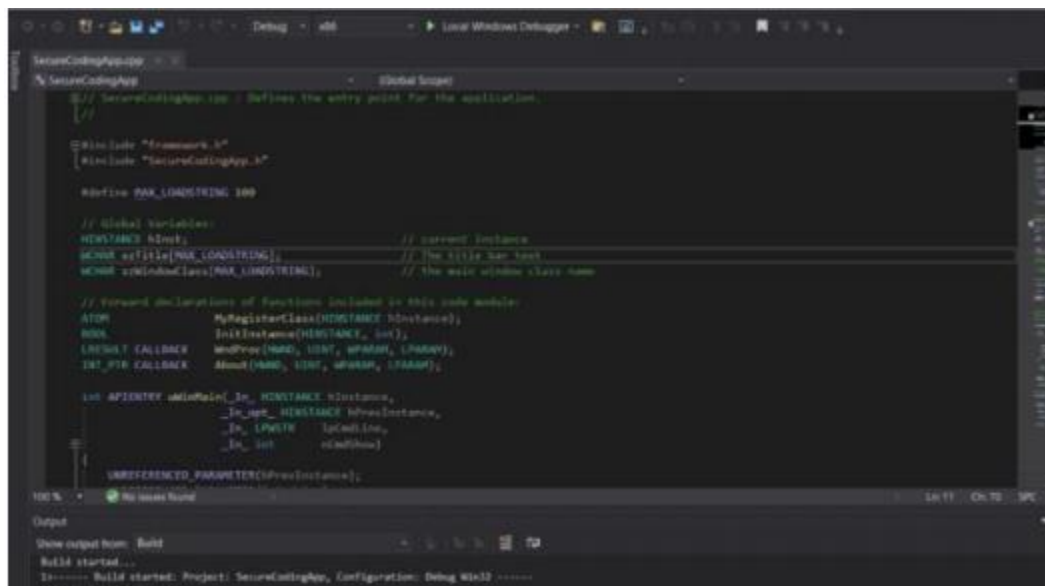
**Download process explorer and verify the DEP & ASLR status**

**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.**

- Download and install visual studio
- Write a C++ code of your own to build an executable and run the same



```
// SecureCodingApp.cpp : Defines the entry point for the application.
//
#include "framework.h"
#include "SecureCodingApp.h"

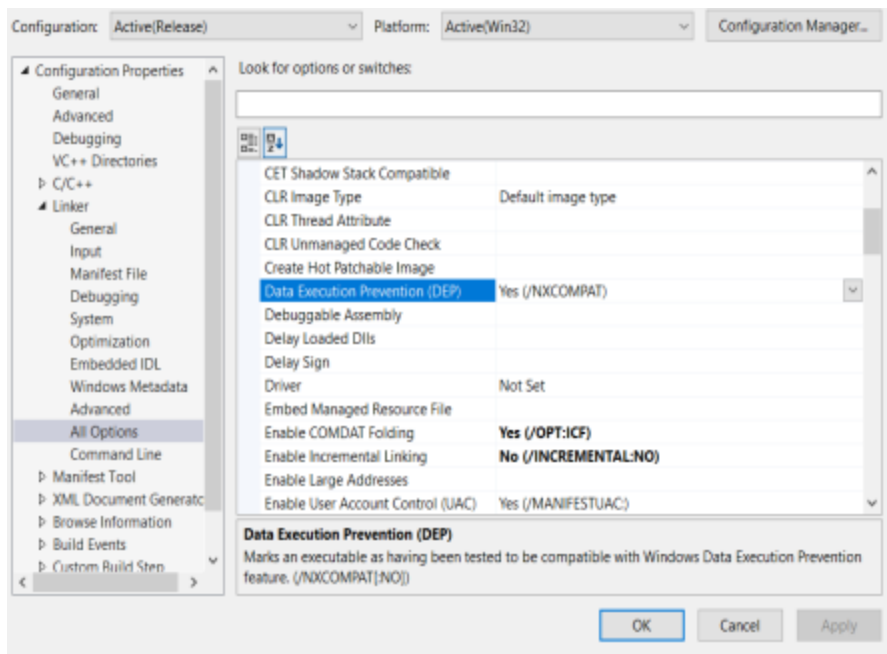
#define PAK_LOADSTRING 100

// Global variables
HINSTANCE hInst; // current instance
HWND hWnd; // The title bar text
HMENU hMenu; // the main window class name

// Forward declarations of functions included in this code module
ATOM MyRegisterClass(HINSTANCE hInstance);
BOOL InitInstance(HINSTANCE hInst);
LRESULT CALLBACK WndProc(HWND, UINT, WPARAM, LPARAM);
INT_PTR CALLBACK About(HWND, UINT, WPARAM, LPARAM);

int WINAPI WinMain(_In_ HINSTANCE hInstance,
                  _In_opt_ HINSTANCE hPrevInstance,
                  _In_ LPWSTR lpCmdLine,
                  _In_ int nCmdShow)
{
    UNREFERENCED_PARAMETER(hPrevInstance);

    // Show output from: Build
    // Build started...
    // Build started: Project: SecureCodingApp, Configuration: Debug Win32
    // SecureCodingApp.cpp
```



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

Process	Working Set	PID	Description	Company Name	DEP	ASLR
chrome.exe	51,620 K	13076	Google Chrome	Google LLC	Enabled (permane...	ASLR
chrome.exe	1,71,132 K	11340	Google Chrome	Google LLC	Enabled (permane...	ASLR
chrome.exe	19,412 K	18320	Google Chrome	Google LLC	Enabled (permane...	ASLR
chrome.exe	2,60,264 K	16156	Google Chrome	Google LLC	Enabled (permane...	ASLR
chrome.exe	96,400 K	3540	Google Chrome	Google LLC	Enabled (permane...	ASLR
chrome.exe	3,01,228 K	10464	Google Chrome	Google LLC	Enabled (permane...	ASLR
chrome.exe	15,816 K	11188	Google Chrome	Google LLC	Enabled (permane...	ASLR
chrome.exe	92,596 K	5156	Google Chrome	Google LLC	Enabled (permane...	ASLR
chrome.exe	23,712 K	17740	Google Chrome	Google LLC	Enabled (permane...	ASLR
ciscoverbexstart.exe	14,916 K	13768	Webex	Cisco Webex LLC	Enabled (permane...	ASLR
cmd.exe	3,868 K	9688	Windows Command Process...	Microsoft Corporation	Enabled (permane...	ASLR
cmd.exe	3,876 K	11684	Windows Command Process...	Microsoft Corporation	Enabled (permane...	ASLR
conhost.exe	7,784 K	11672	Console Window Host	Microsoft Corporation	Enabled (permane...	ASLR
conhost.exe	7,712 K	11720	Console Window Host	Microsoft Corporation	Enabled (permane...	ASLR
conhost.exe	10,780 K	12076	Console Window Host	Microsoft Corporation	Enabled (permane...	ASLR
conhost.exe	16,516 K	6988	Console Window Host	Microsoft Corporation	Enabled (permane...	ASLR
devenv.exe	4,77,824 K	17840	Microsoft Visual Studio 2019	Microsoft Corporation	Enabled (permane...	ASLR
DiagsCap.exe	6,624 K	2448		HP Inc.	n/a	ASLR
Discord.exe	61,008 K	15216	Discord	Discord Inc.	Enabled (permane...	ASLR
Discord.exe	22,988 K	15136	Discord	Discord Inc.	Enabled (permane...	ASLR
Discord.exe	60,688 K	15380	Discord	Discord Inc.	Enabled (permane...	ASLR
Discord.exe	35,284 K	15472	Discord	Discord Inc.	Enabled (permane...	ASLR
Discord.exe	1,37,584 K	16296	Discord	Discord Inc.	Enabled (permane...	ASLR
Discord.exe	57,844 K	16736	Discord	Discord Inc.	Enabled (permane...	ASLR
dllhost.exe	13,592 K	10920	COM Surrogate	Microsoft Corporation	Enabled (permane...	ASLR
dllhost.exe	7,344 K	17836	COM Surrogate	Microsoft Corporation	Enabled (permane...	ASLR
downloader2.exe	33,772 K	16916	RealDownloader		Enabled (permane...	ASLR
esif_uf.exe	5,812 K	5212	Intel(R) Dynamic Tuning Serv...	Intel Corporation	n/a	ASLR
ETDctrl.exe	21,092 K	5020	ETD Control Center	ELAN Microelectronics Corp.	Enabled (permane...	ASLR
ETDService.exe						



