**CSE 2010 SECURE CODING**

**LAB SLOT –L23+L24**

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**LAB EXPERIMENT 11**

**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**

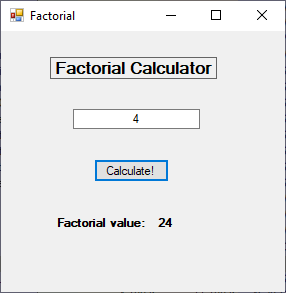
**Report the same with separate screenshot - before and after enabling DEP & ASLR.**

**Happy Learning!!!**

**Experiment analysis:**

1. **Create an executable**

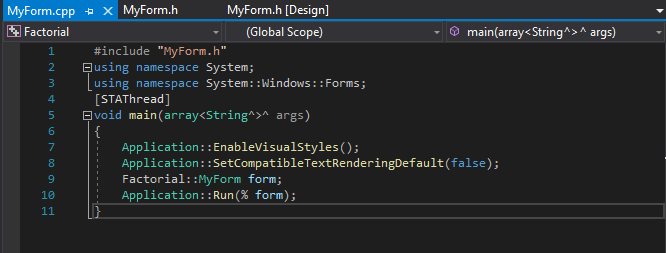
**Executable created: Factorial.exe**

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**Select C++ as the language and open an empty CLR project and select Windows Form.**

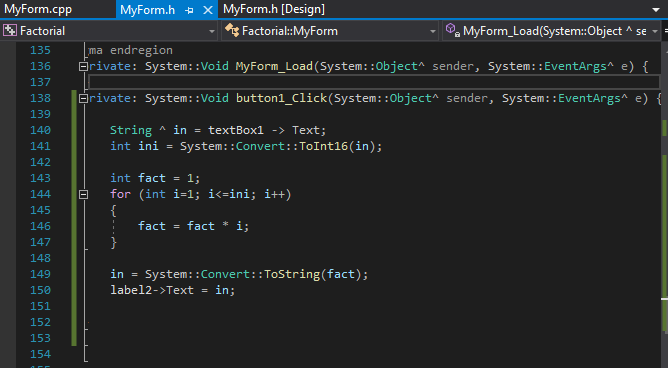
**Then create the above GUI by adding labels, textbox and button and make the modifications accordingly.**

**MyForm.cpp**

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**Cpp code for the Gui**

**Now add the functionality to the label and button values and implement the factorial logic.**

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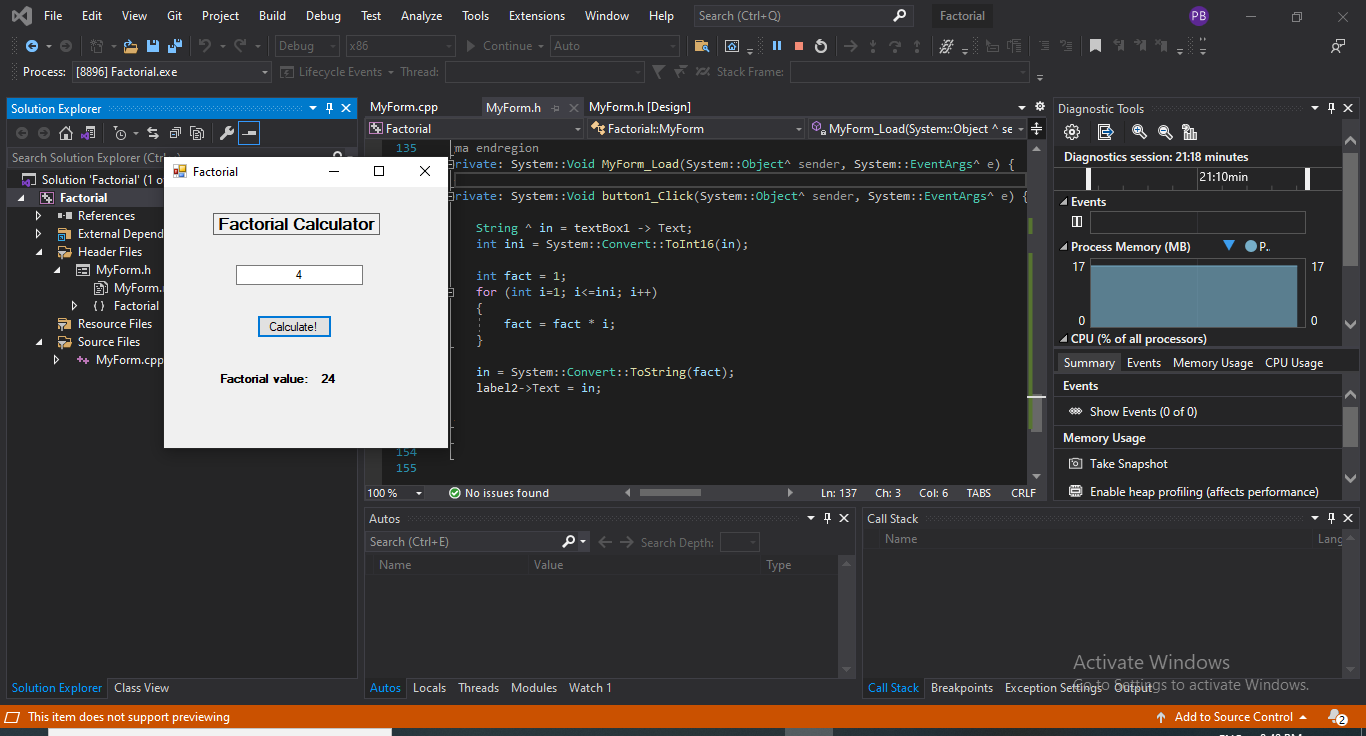
**While making the form the code gets auto generated. Later click on particular control option and add functionality to it.**

**Right click on the Factorial in solution explorer and select “Properties”.**

**Select Linker and then Select System.**

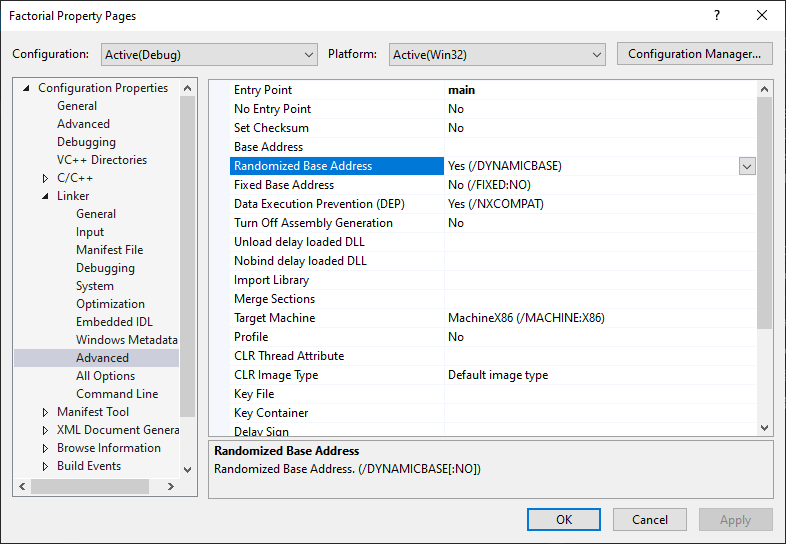
**In Sub System option select Windows**

**Then go to Advanced option and give “main” in the Entry point option.**

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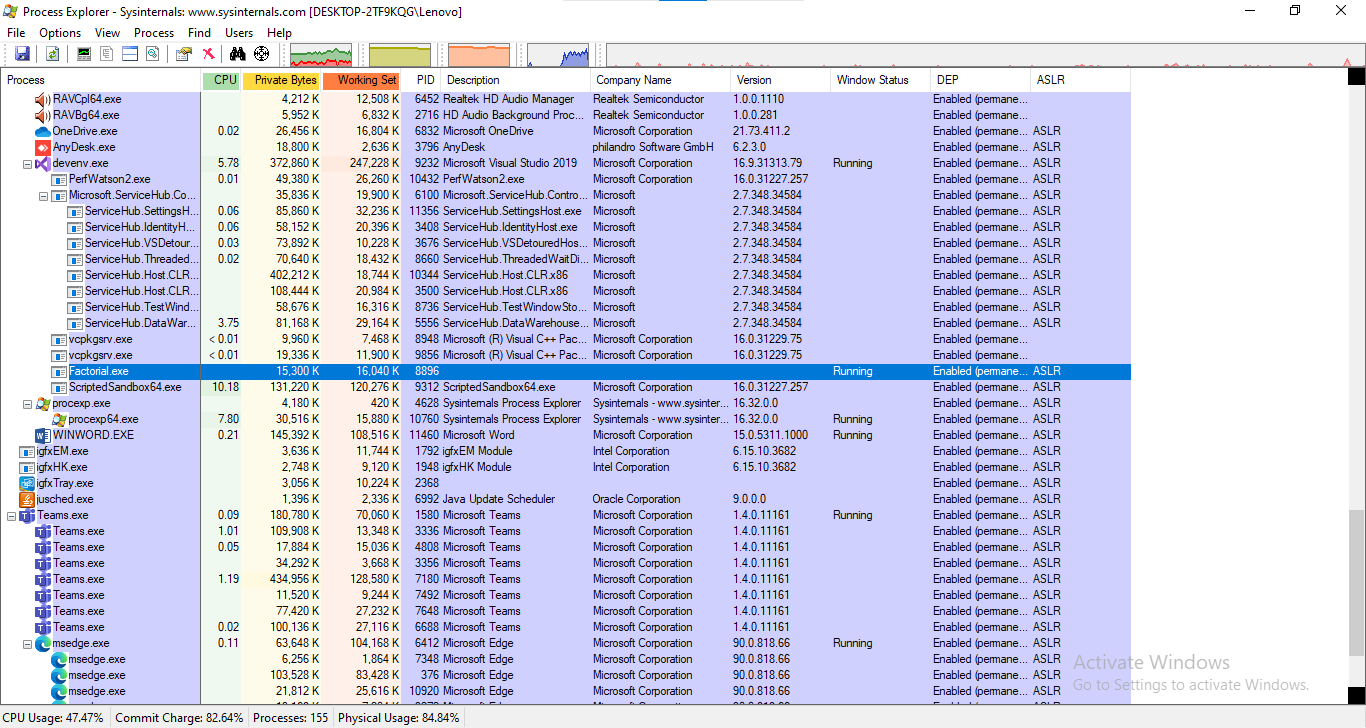
**TURNING ON DEP AND ASLR**

1. **Now open Process Explorer (Sysinternals) and check the DEP and ASLR status for Factorial.exe**

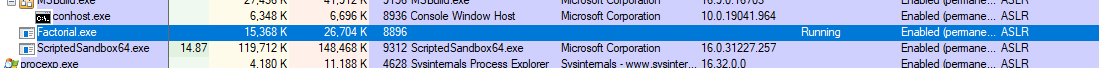
**Firstly let us check the status by turning on ASLR and DEP**

**Check Randomized base address and DEP and make sure it is YES**

**View Status in process Explorer**

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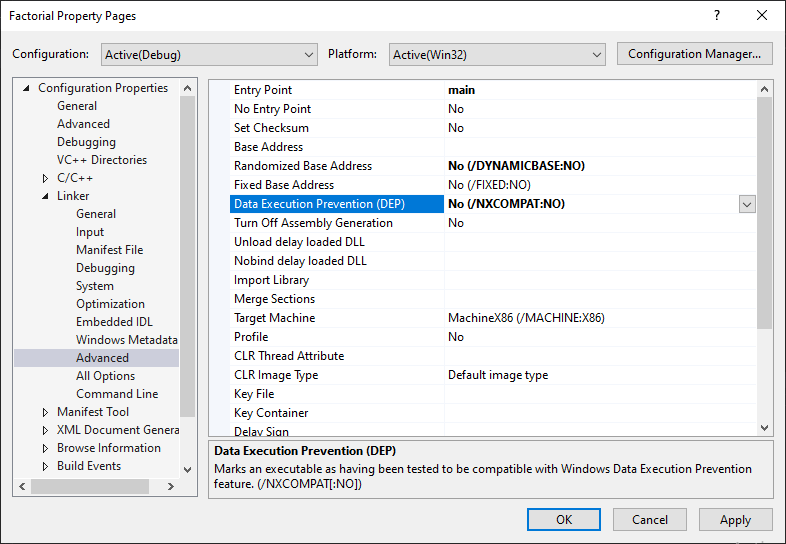
**Factorial.exe status**

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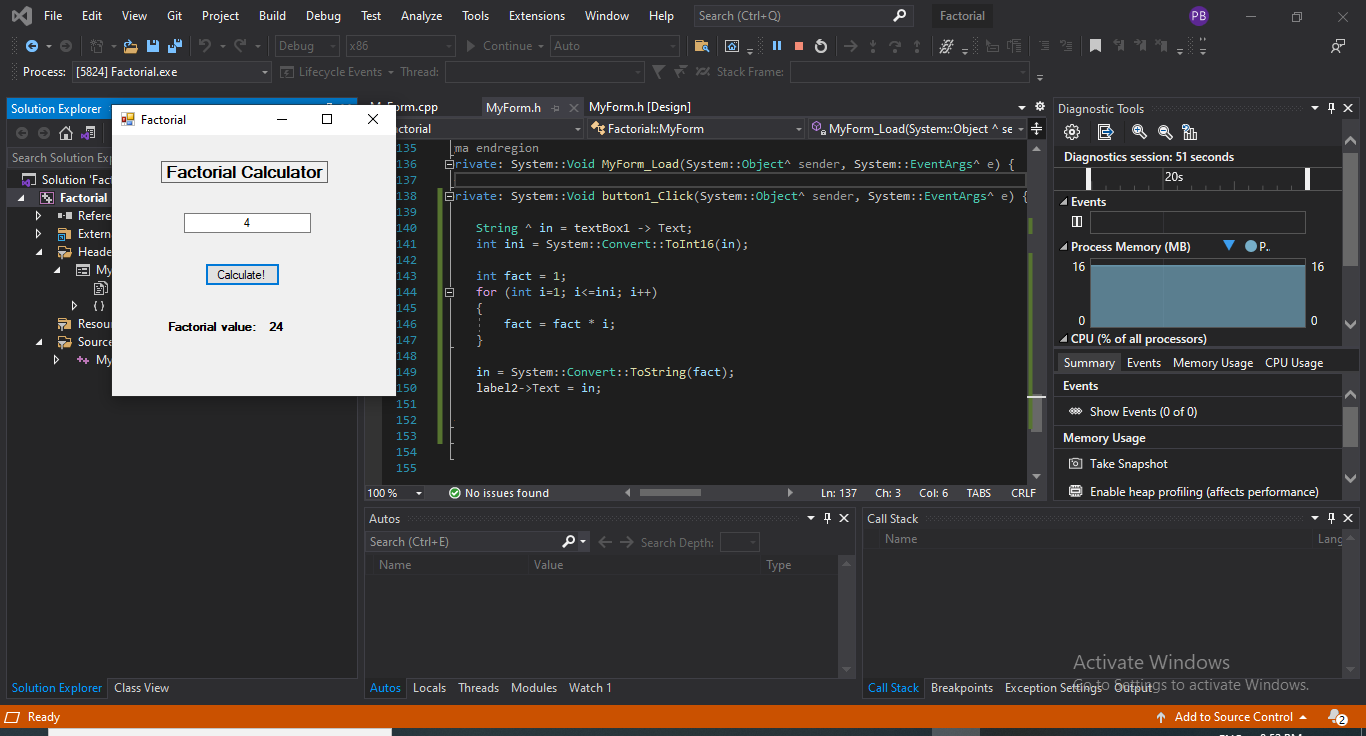
**It is enabled**

**TURNING OFF ASLR AND DEP**

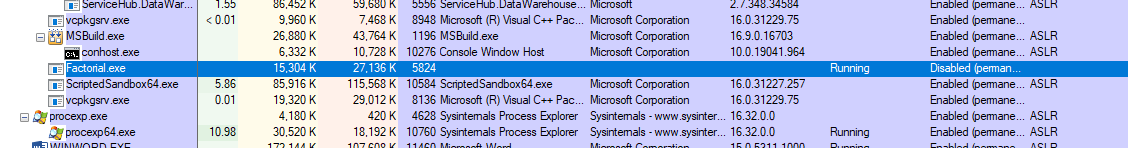
**Now let us disable the DEP and ASLR and see if it is reflecting in Process Explorer**

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**Run the exe again**

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**Check ASLR and DEP status**

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**Here the DEP status is Disabled and ASLR status is off.**