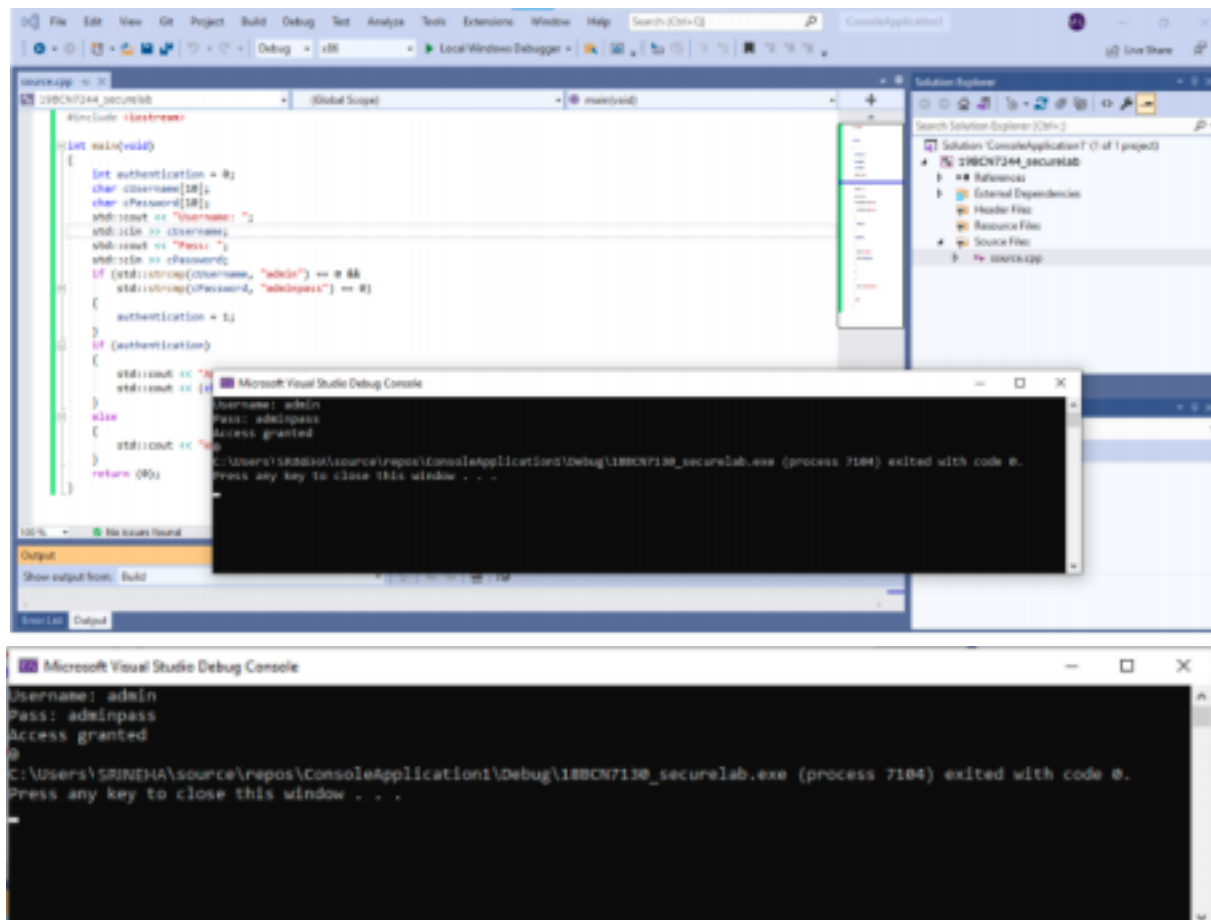


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## Lab experiment – Creating secure and safe executable 1)

### C++ Code & building the Executable

```
#include <iostream>
int main(void)
{
    int authentication = 0;
    char cUsername[10];
    char cPassword[10];
    std::cout << "Username: ";
    std::cin >> cUsername;
    std::cout << "Pass: ";
    std::cin >> cPassword;
    if (std::strcmp(cUsername, "admin") == 0 &&
        std::strcmp(cPassword, "adminpass") == 0)
    {
        authentication = 1;
    }
    if (authentication)
    {
    }
    else
    {
    }
    std::cout << "Access granted\n";
    std::cout << (char)authentication;
    std::cout << "Wrong username and password\n";
    return (0);
}
```

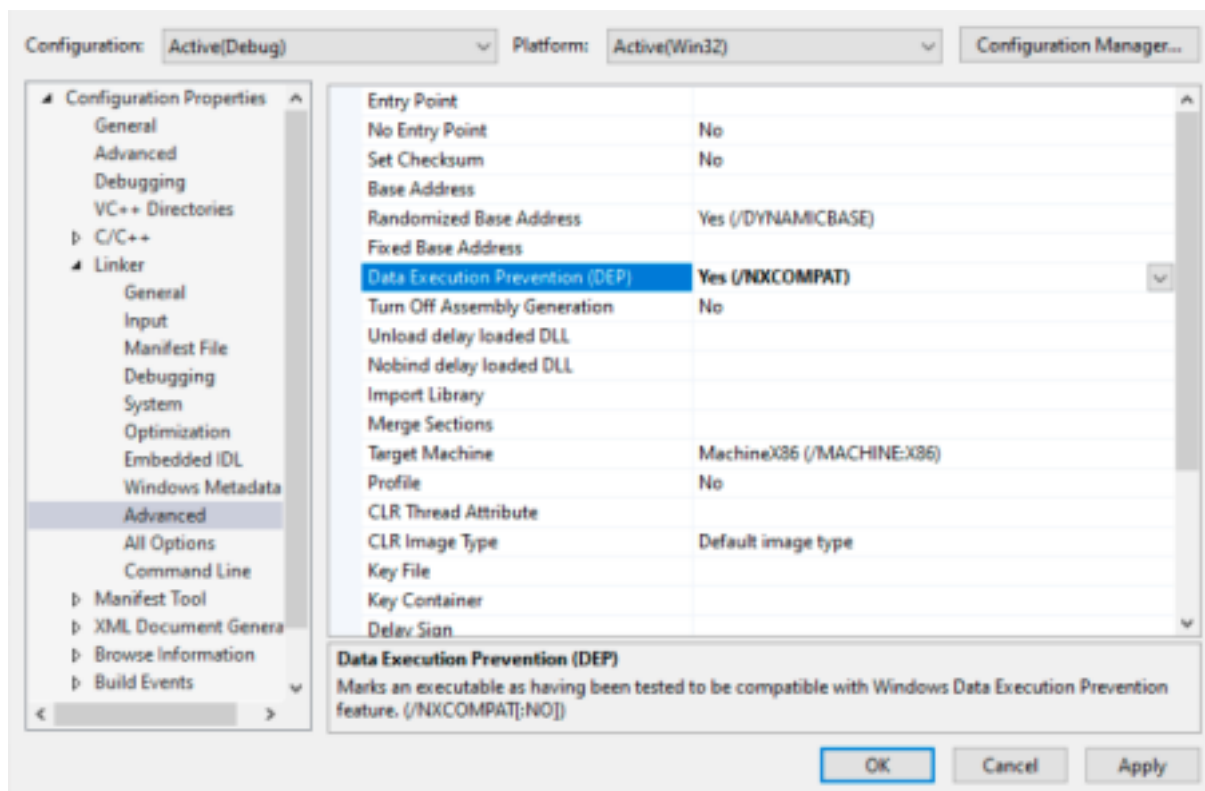
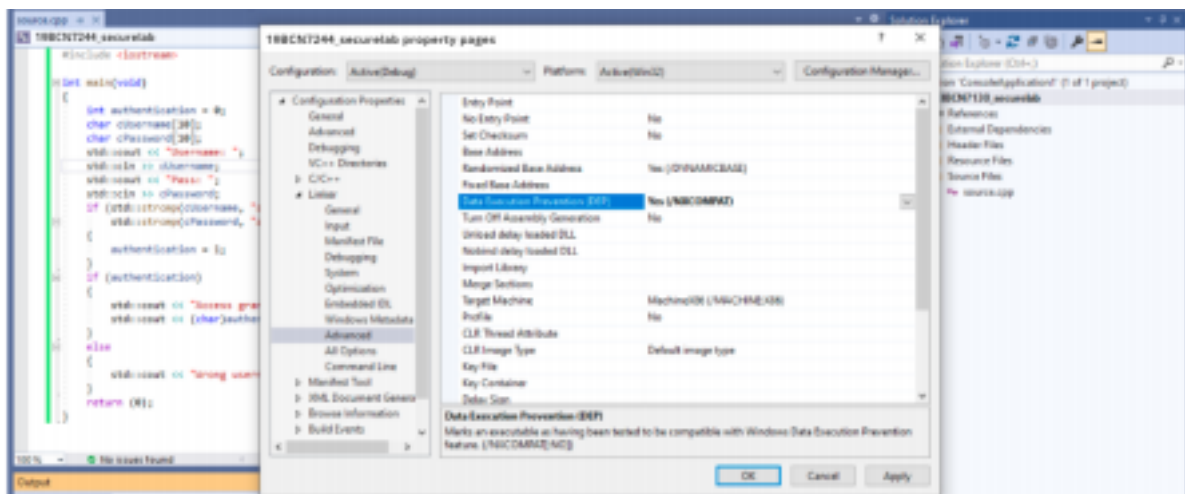


## 2) Verifying the DEP & ASLR status in Process Explorer

vcpkgsvc.exe	< 0.01	43,024 K	19,028 K	9988	Microsoft (R) Visual ...	Microsoft Corporation
MSBuild.exe		28,612 K	43,636 K	13444	MSBuild.exe	Microsoft Corporation
conhost.exe		6,492 K	11,060 K	20152	Console Window Host	Microsoft Corporation
VsDebugConsole.exe		1,236 K	6,136 K	5968	Visual Studio Debug...	Microsoft Corporation
conhost.exe		7,188 K	16,284 K	5072	Console Window Host	Microsoft Corporation
198CN7144_securelab.exe		780 K	4,496 K	19128		
msedge.exe	< 0.01	44,000 K	86,880 K	16884	Microsoft Edge	Microsoft Corporation
msedge.exe		6,504 K	7,484 K	17008	Microsoft Edge	Microsoft Corporation

You can see DEP disabled & No ASLR.

### 3) Rebuilding the same executable After enabling DEP & ASLR



As you can see, I have enabled DEP, ASLR, SEH above.

I have Rebuilt my project and run the same and we can verify the status of DEP, ASLR, SEH.

### 4) Verifying the DEP & ASLR status in Process Explorer After Enabling