

# Demonstrates reading a file into memory, attaching it to a MemoryStream and using stream methods to access the contents

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/*
C# Programming Tips & Techniques
by Charles Wright, Kris Jamsa

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*/
// MemStrm.cs – Demonstrates reading a file into memory,
// attaching it to a
// MemoryStream and using stream methods to access the
// contents
//
// Compile this program with the following command line:
// C:>csc MemStrm.cs
using System;
using System.IO;

namespace nsStreams
{
    public class MemStrm
    {
        const string USA = "[USA]";
        const string PhoneEntry = "Phone_number=";
        static public void Main ()
        {
            FileStream cfg;
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try
{
cfg = new FileStream (".\\config.ini",
FileMode.Open,
FileAccess.ReadWrite);
}
catch (FileNotFoundException)
{
Console.WriteLine ("Cannot find .\\config.ini");
return;
}
catch (Exception e)
{
Console.WriteLine (e.Message);
Console.WriteLine ("Cannot find .\\config.ini");
return;
}
MemoryStream mem = new MemoryStream ((int) cfg.Length);
cfg.Read (mem.GetBuffer(), 0, (int) cfg.Length);
int pos = FindInBuffer (USA, 0, mem.GetBuffer());
if (pos < 0) { Console.WriteLine ("Could not find match in
buffer"); } else { pos = FindInBuffer (PhoneEntry, pos,
mem.GetBuffer()); if (pos < 0) { Console.WriteLine ("Could not
find phone number"); } else { const string NewPhone =
"1888555-9876"; mem.Seek (pos + PhoneEntry.Length,
SeekOrigin.Begin); for (int x = 0; x < NewPhone.Length; ++x) {
mem.WriteByte ((byte) NewPhone[x]); } cfg.SetLength (0);
cfg.Write (mem.GetBuffer(), 0, (int) mem.GetBuffer().Length);
} } cfg.Flush (); cfg.Close (); mem.Close (); } // // Find a
string of characters in a buffer of type byte static int
FindInBuffer (string ToFind, int start, byte [] buf) { for
(int x = start; x < buf.Length; ++x) { if (buf[x] == (byte)
ToFind[0]) { int y; for (y = 1; y < ToFind.Length; ++y) { if
((x + y) >= buf.Length)
break;
if (buf[x + y] != (byte) ToFind[y])
break;

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}
if (y == ToFind.Length)
{
return (x);
}
}
}
return (-1);
}
//
// Convert a buffer of type string to byte
static void StringToByte (out byte [] b, string str)
{
b = new byte [str.Length];
for (int x = 0; x < str.Length; ++x) { b[x] = (byte) str [x];
} } // // Convert a buffer of type byte to a string static
string ByteToString (byte [] b, int start) { string str = "";
for (int x = start; x < b.Length; ++x) { str += (char) b [x];
} return (str); } } } //File: config.ini /* [PROGRAM] Program
Directory=C:TEMP      Data      Directory=      [DEFAULTS]
Phone_number=800-555-2345 Wallpaper=wallppr.bmp sshow=default
[Modem] Initialization String=ATX4L1 Dial Type=1 [Countries]
1=USA      2=Canada      3=United      Kingdom      [USA]
Phone_number=1800555-1234      TOLLFREE=1      [Canada]
Phone_number=1800555-2345      TOLLFREE=1      [United      Kingdom]
Phone_number=08009872345 TOLLFREE=1 */ [/csharp]

```