

SingletonPatternExample

```
Logger.cs > Logger > GetInstance
1  using System;
2
3  4 references
4  public class Logger
5  {
6      4 references
7      private static Logger _instance;
8      1 reference
9      private static readonly object _lock = new object();
10
11      1 reference
12      private Logger()
13      {
14          Console.WriteLine("Logger Instance Created");
15      }
16
17      0 references
18      public static Logger GetInstance()
19      {
20          if (_instance == null)
21          {
22              lock (_lock)
23              {
24                  if (_instance == null)
25                  {
26                      _instance = new Logger();
27                  }
28              }
29          }
30          return _instance;
31      }
32
33      0 references
34      public void Log(string message)
35      {
36          Console.WriteLine("Log Message: " + message);
37      }
38  }
```

```
Program.cs > Program > Main
1  using System;
2
3  0 references
4  class Program
5  {
6      0 references
7      static void Main(string[] args)
8      {
9          Logger logger1 = Logger.GetInstance();
10         Logger logger2 = Logger.GetInstance();
11
12         logger1.Log("This is the first log message.");
13         logger2.Log("This is the second log message.");
14
15         if (object.ReferenceEquals(logger1, logger2))
16         {
17             Console.WriteLine("Both logger instances are the same (Singleton verified).");
18         }
19         else
20         {
21             Console.WriteLine("Different logger instances exist (Singleton failed).");
22         }
23     }
24 }
```

```
PS C:\Users\Lenovo\OneDrive\Desktop\CS\SingletonPatternExample> dotnet run
C:\Users\Lenovo\OneDrive\Desktop\CS\SingletonPatternExample\Logger.cs(5,27): warning CS8618: Non-nullable field '_instance' must contain a non-null value when exiting constructor. Consider adding the 'required' modifier or declaring the field as nullable.
Logger Instance Created
Log Message: This is the first log message.
Log Message: This is the second log message.
Both logger instances are the same (Singleton verified).
```