

SINGLETON PATTERN

```
using System;
```

```
public class Logger
```

```
{
```

```
    private static Logger _instance;
```

```
    private static readonly object _lock = new object();
```

```
    private Logger()
```

```
    {
```

```
        Console.WriteLine("Logger initialized.");
```

```
    }
```

```
    public static Logger GetInstance()
```

```
    {
```

```
        if (_instance == null)
```

```
        {
```

```
            lock (_lock)
```

```
            {
```

```
                if (_instance == null)
```

```
                {
```

```
                    _instance = new Logger();
```

```
                }
```

```
            }
```

```
        }
```

```
        return _instance;
```

```
    }
```

```
    public void Log(string message)
```

```
    {
```

```
        Console.WriteLine("Log: " + message);
```

```

    }
}

```

class Program

```

{
    static void Main(string[] args)
    {
        Logger logger1 = Logger.GetInstance();
        logger1.Log("This is the first message.");

        Logger logger2 = Logger.GetInstance();
        logger2.Log("This is the second message.");

        Console.WriteLine($"Are both instances same? {ReferenceEquals(logger1, logger2)}");
    }
}

```

```

PS C:\Users\dell> dotnet new console -o SingletonPatternExample
The template "Console App" was created successfully.

Processing post-creation actions...
Restoring c:\Users\dell\SingletonPatternExample\SingletonPatternExample.csproj:
Restore succeeded.

PS C:\Users\dell> cd SingletonPatternExample

PS C:\Users\dell> cd SingletonPatternExample
PS C:\Users\dell\SingletonPatternExample> code .
PS C:\Users\dell\SingletonPatternExample> dotnet run
C:\Users\dell\SingletonPatternExample\Program.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.
Log: initialized.
Log: This is the first message.
Log: This is the second message.
Are both instances same? True
PS C:\Users\dell\SingletonPatternExample>

```