.Net Core

1. [AddTransient Vs AddScoped Vs AddSingleton in ASP.NET Core](#_AddTransient_Vs_AddScoped)
2. [Lazy initialization](#_Lazy_initialization)

# AddTransient Vs AddScoped Vs AddSingleton in [ASP.NET](http://asp.net/) Core

<https://www.c-sharpcorner.com/article/understanding-addtransient-vs-addscoped-vs-addsingleton-in-asp-net-core/>

The below three methods define the lifetime of the services,

*1.       AddTransient*Transient lifetime services are created each time they are requested. This lifetime works best for lightweight, stateless services.

*2.       AddScoped*Scoped lifetime services are created once per request.

*3.       AddSingleton*Singleton lifetime services are created the first time they are requested (or when ConfigureServices is run if you specify an instance there) and then every subsequent request will use the same instance.

|  |  |  |
| --- | --- | --- |
| **Service Type** | **In the scope of a given http request** | **Across different http requests** |
| **Transient** | New Instance | New Instance |
| **Scoped** | Same Instance | New Instance |
| **Singleton** | Same Instance | Same Instance |

# Lazy initialization

[*https://docs.microsoft.com/en-us/dotnet/framework/performance/lazy-initialization*](https://docs.microsoft.com/en-us/dotnet/framework/performance/lazy-initialization)

### Implementing a Lazy-Initialized Property

To implement a public property by using lazy initialization, define the backing field of the property as a [Lazy<T>](https://docs.microsoft.com/en-us/dotnet/api/system.lazy-1), and return the [Value](https://docs.microsoft.com/en-us/dotnet/api/system.lazy-1.value) property from the get accessor of the property.

class Customer

{

    private Lazy<Orders> \_orders;

    public string CustomerID {get; private set;}

    public Customer(string id)

    {

        CustomerID = id;

        \_orders = new Lazy<Orders>(() =>

        {

            // You can specify any additional

            // initialization steps here.

            return new Orders(this.CustomerID);

       });

    }

    public Orders MyOrders

    {

        get

        {

            // Orders is created on first access here.

            return \_orders.Value;

        }

    }

}