Difference between Singleton,Scoped,Tranient

|  |  |  |
| --- | --- | --- |
| **Singleton** | **Scoped** | **Transient** |
| It means only a single instance will ever be created. That instance is shared between all components that require it. The same instance is thus used always. | It means an instance is created once per scope. A scope is created on every request to the application, thus any components registered as Scoped will be created once per request. | The services created using transient lifetime will be created each time they are requested. This lifetime works best for lightweight services. |
| A Singleton service is created only one time per application and that single instance is used throughout the application life time | A new instance of a Scoped service is created once per request within the scope. | A new instance of a Transient service is created each time it is requested. |
|  |  |  |
| **AddSingleton()** | **AddScoped()** | **AddTransient()** |
| AddSingleton() creates a single instance of the service when it is first requested and reuses that same instance in all the places where that service is needed. | In a scoped service, with every HTTP request, we get a new instance. However, within the same HTTP request, if the service is required in multiple places, like in the view and in the controller, then the same instance is provided for the entire scope of that HTTP request. But every new HTTP request will get a new instance of the service. | With a transient service, a new instance is provided every time a service instance is requested whether it is in the scope of the same HTTP request or across different HTTP requests. |
|  |  |  |