



Understanding the Run, Use, and Map Methods



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Understanding the Run, Use, and Map Methods

- Run, Use, and Map are methods used to configure middleware components in ASP.NET Core.
- Each method has a specific purpose and usage in the middleware pipeline.
- Understanding the differences between Run, Use, and Map is essential for configuring the middleware pipeline correctly.



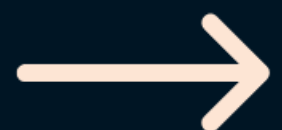
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Use Method

- The “**Use**” method is used to add middleware components to the pipeline.
- Middleware components added using the Use method can handle requests and pass control to the “**next**” middleware using the next delegate.
- Middleware added with “**Use**” are executed in the order they are added to the pipeline.





Run Method

- The “**Run**” method is used to add a terminal middleware component to the pipeline.
- A terminal middleware component does not call the “**next**” delegate and stops the pipeline.
- “**Run**” is typically used to handle the response and send it back to the client.






Map Method

- The “Map” method is used to map specific paths or segments to a middleware pipeline.
- Map allows you to conditionally execute middleware based on the request path.
- Middleware mapped using Map are executed only if the request path matches the specified path or segment.





```
// Middleware using app.Use
app.Use(async (context, next) =>
{
    await context.Response.WriteAsync("Middleware 2: Before the terminal
middleware\n");
    await next.Invoke();
    await context.Response.WriteAsync("Middleware 2: After the terminal middleware\n");
});

// Branching middleware using app.Map
app.Map("/branch1", branch =>
{
    branch.Use(async (context, next) =>
    {
        await context.Response.WriteAsync("Inside Branch 1 Middleware\n");
        await next.Invoke();
    });

    branch.Run(async context =>
    {
        await context.Response.WriteAsync("End of Branch 1\n");
    });
});

// Terminal middleware using app.Run
app.Run(async context =>
{
    await context.Response.WriteAsync("Terminal Middleware:
                                This is the end of the pipeline\n");
});

app.Run();
```



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