Zeg vaarwel tegen IConfiguration en omarm de kracht van het IOptions-patroon

Pieter Samyn

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- **Functie:** Technology lead
- **Bedrijf:** ZF
- **Achtergrond:**
  - Backend development
  - AWS serverless ecosystem
  - Performantie
  - Onderhoudbaarheid

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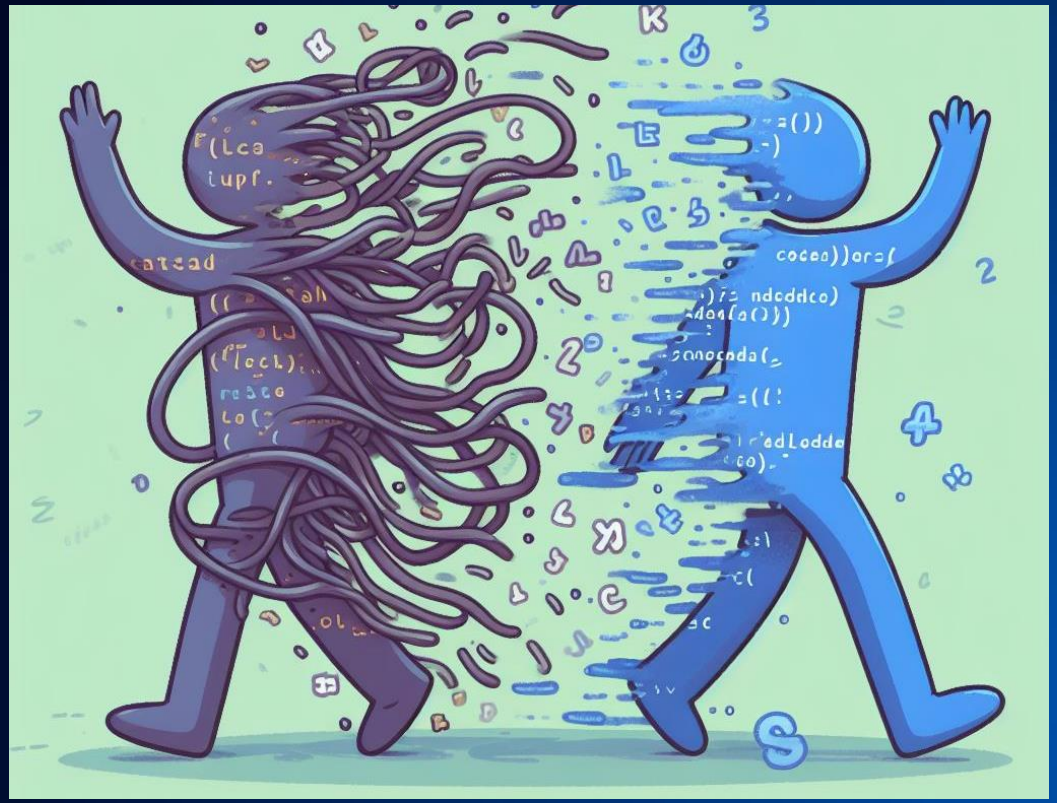
Zeg vaarwel tegen IConfiguration en omarm de kracht van het IOptions-patroon



IConfiguration

Concept
Providers
Binding

IConfiguration: Concept

- Settings: timeout, uri’s, secrets, …
- Read only, view
- Static vs dynamic

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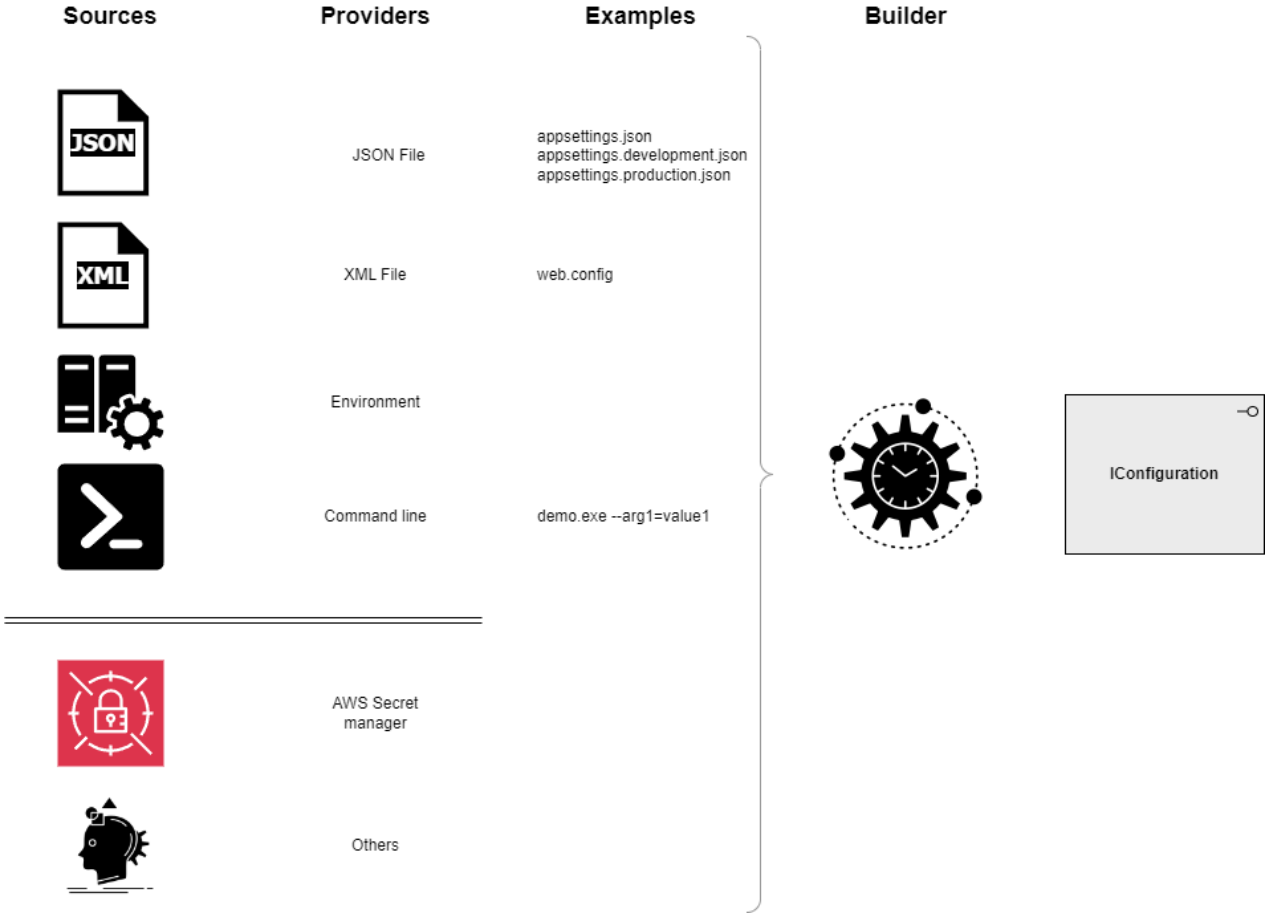
IConfiguration: Providers



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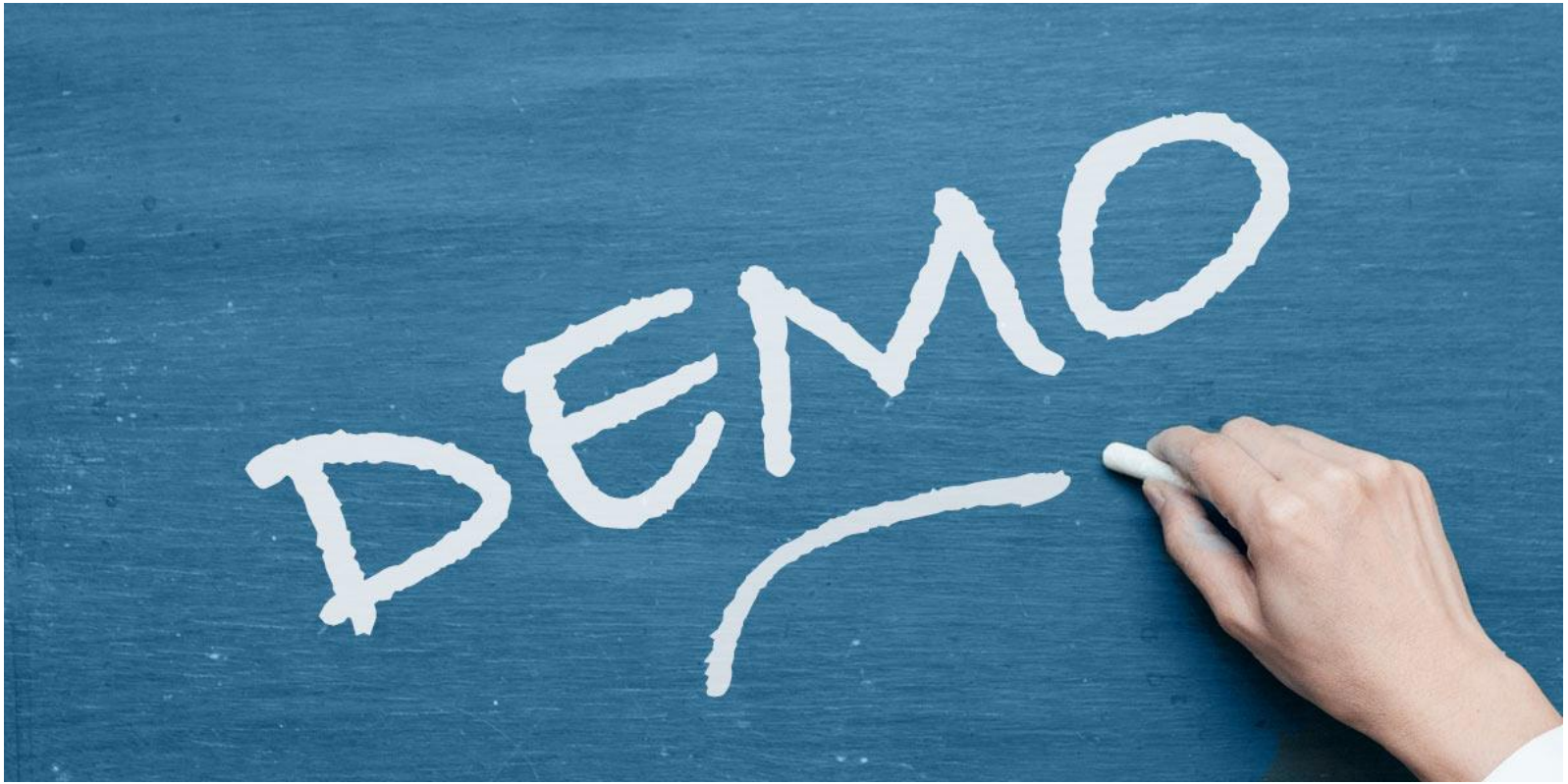
IConfiguration: Providers



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IConfiguration: Provider flavors

- Each provider is different

```
builder.Configuration.AddJsonFile(path: "provider.json", optional: true, reloadOnChange: true);
builder.Configuration.AddEnvironmentVariables("EnvironmentPrefix_");
builder.Configuration.AddKeyPerFile(directoryPath: "/kpf", optional: true, reloadOnChange: true);
builder.Configuration.AddInMemoryCollection(new List<KeyValuePair<string, string?>> { new("memory", "value") }.AsReadOnly());
builder.Configuration.AddYamlFile(path: "customProvider.yml", optional: true, reloadOnChange: true);
```

- Custom providers

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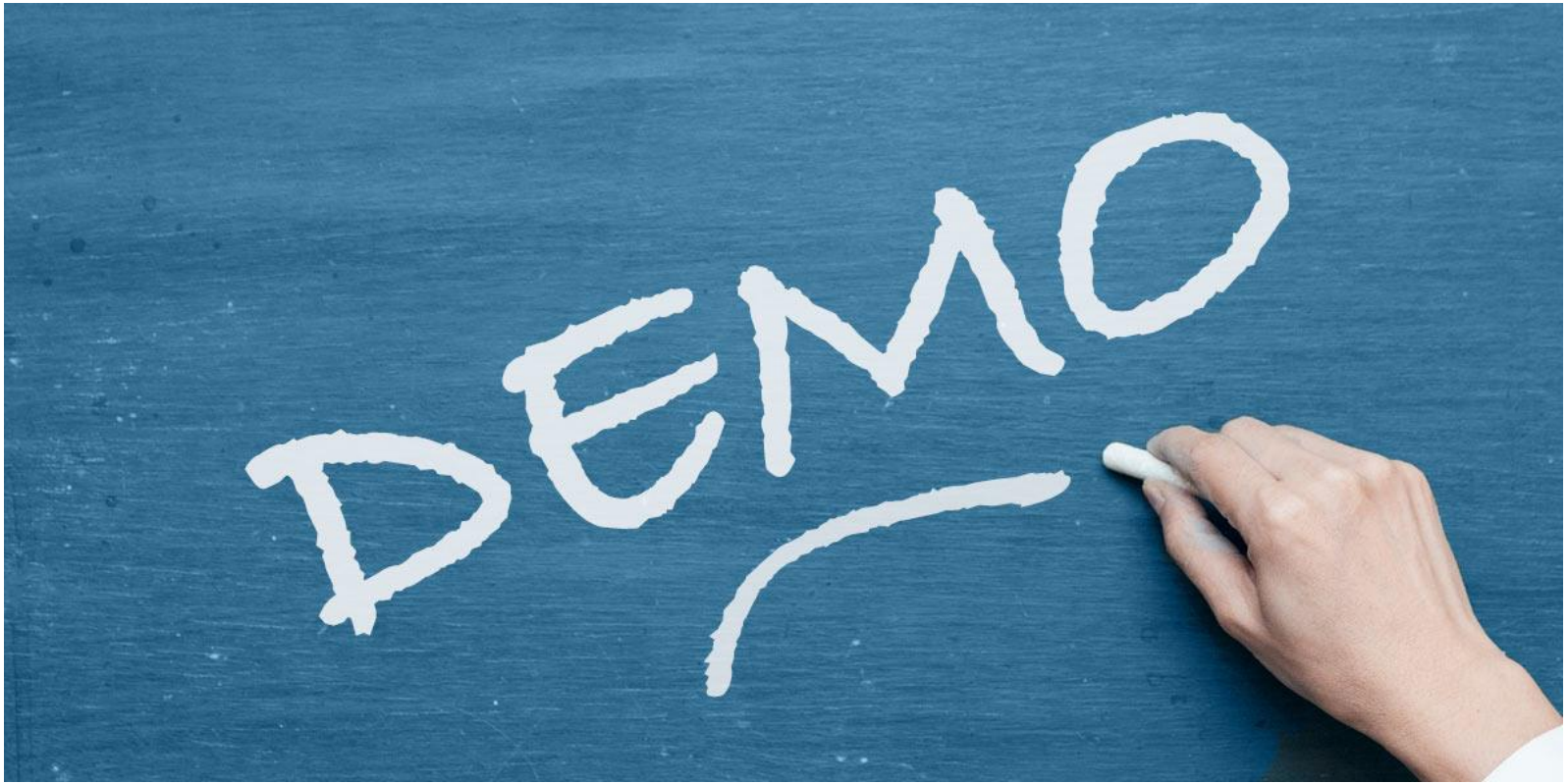
IConfiguration: Custom provider



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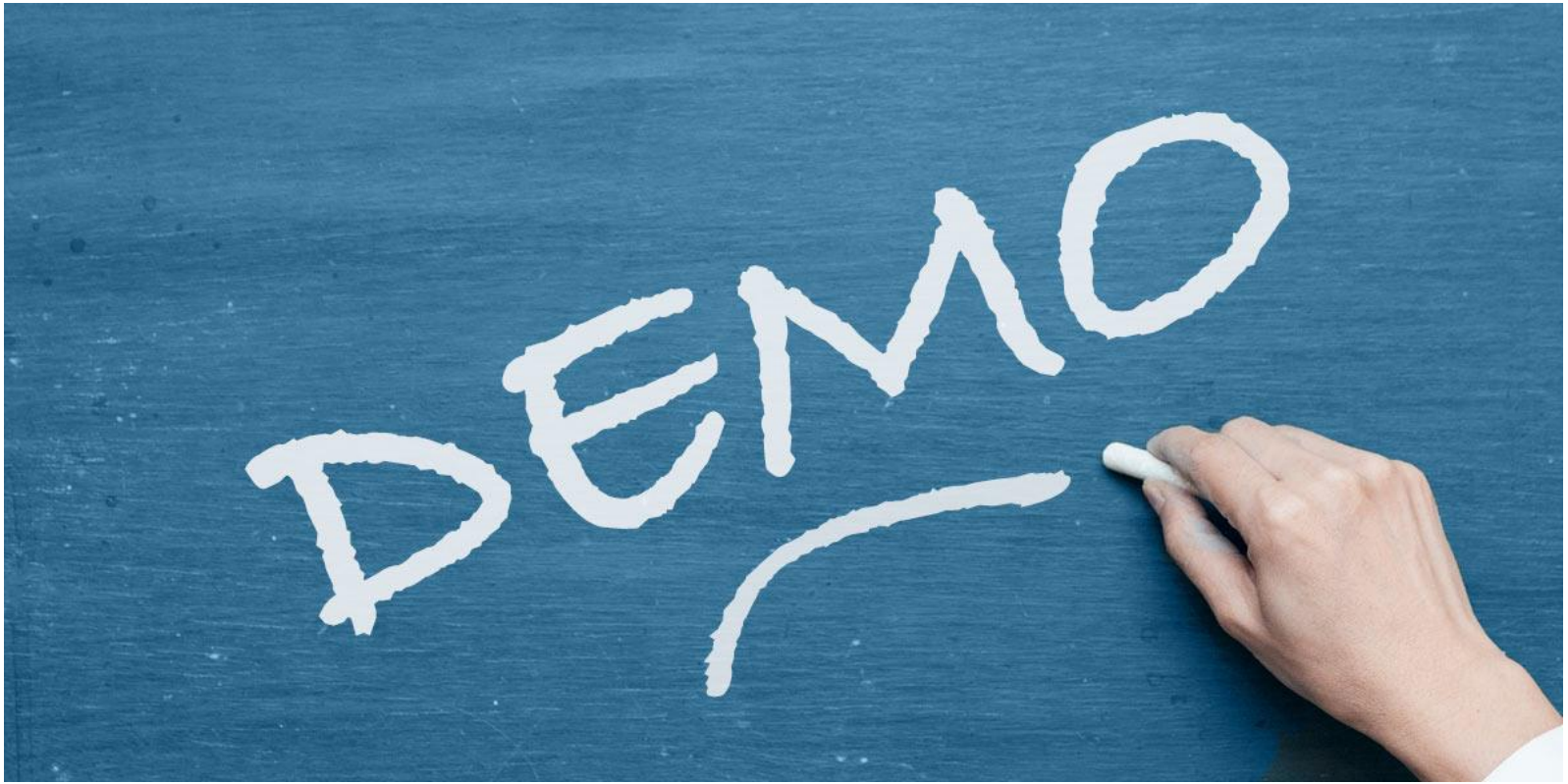
IConfiguration: Binding



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IOptions

Concept
Types
Validatie
Configuratie

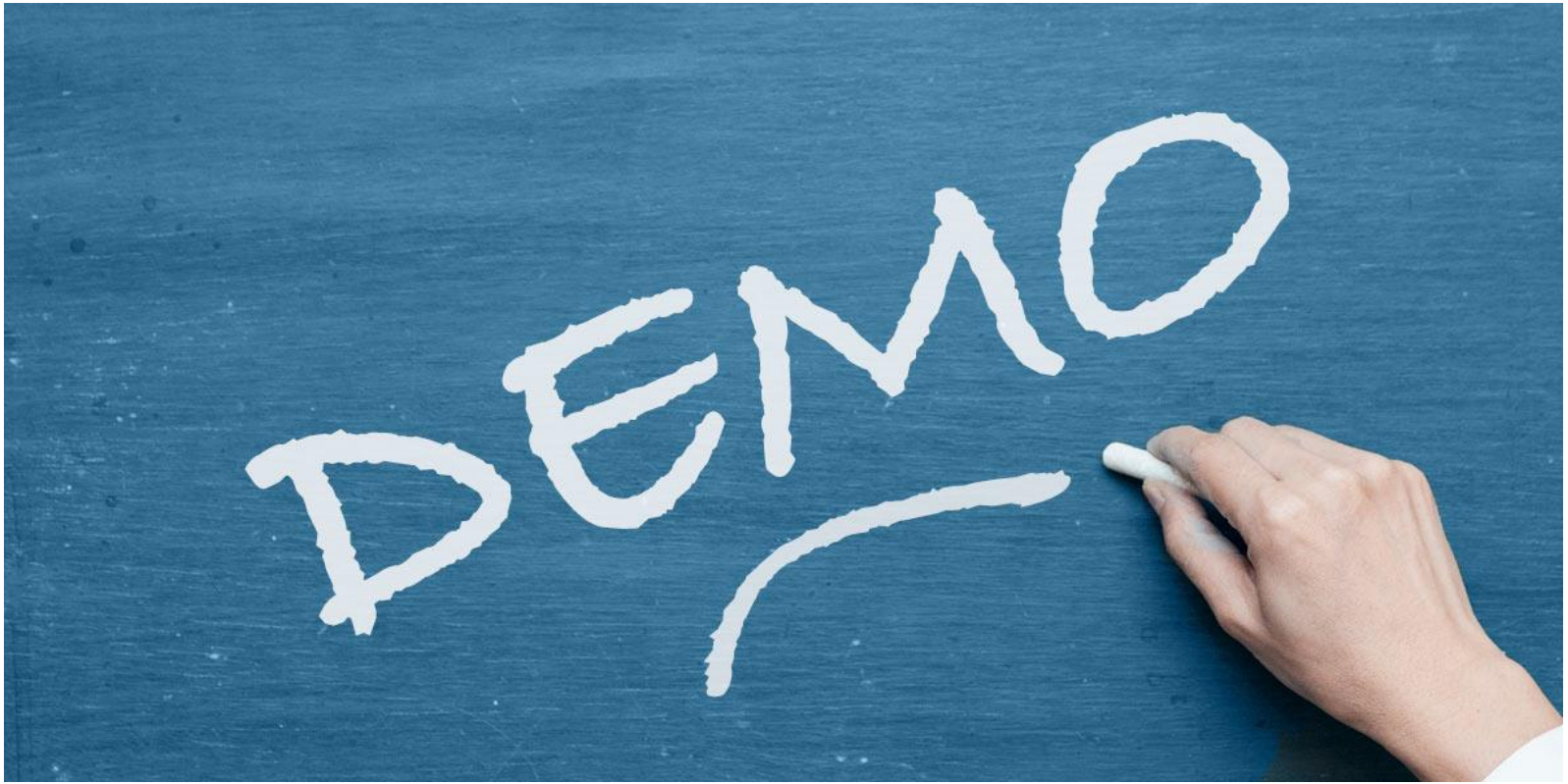
IOptions: Concept

- Interface Segregation Principle (ISP)
- Separation of Concerns
- Validatie
- DI resolving

IOptions: Types

	Singleton	Reloadable	Named support
IOptions<T>	✓	✗	✗
IOptionsSnapshot<T>	✗	✓	✓
IOptionsMonitor<T>	✓	✓	✓

IOptions: Types



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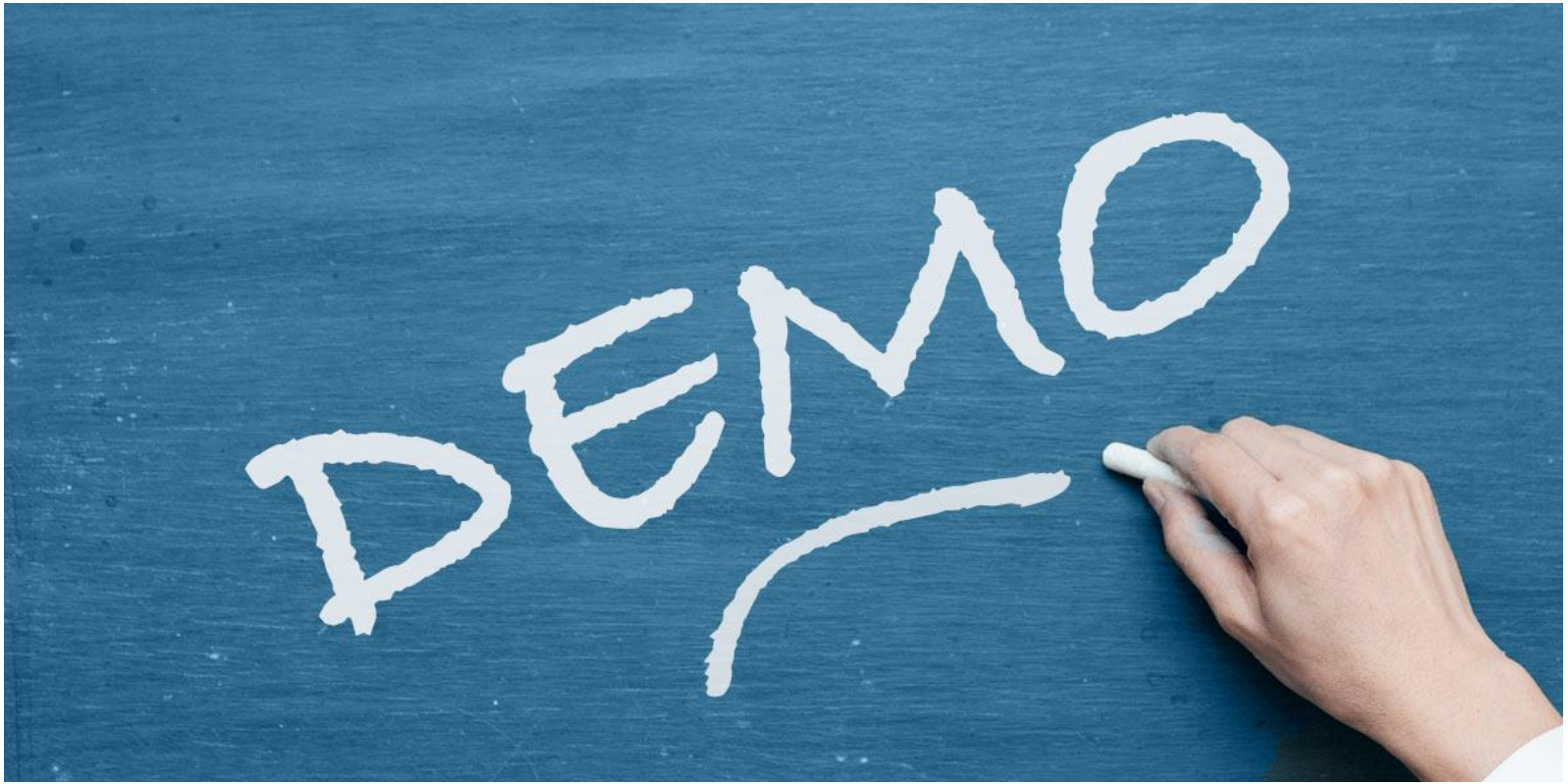
IOptions: Validation

- Microsoft.Extensions.Options.DataAnnotations
- On first usage
- On startup
- Custom validation
- Validation in a separate class
- Source generated

IOptions: Validation



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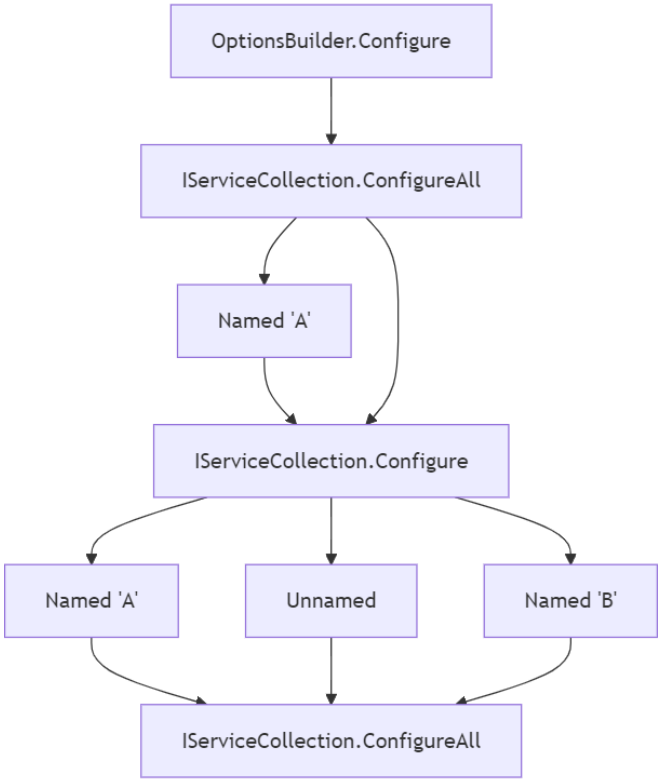
IOptions: Configure



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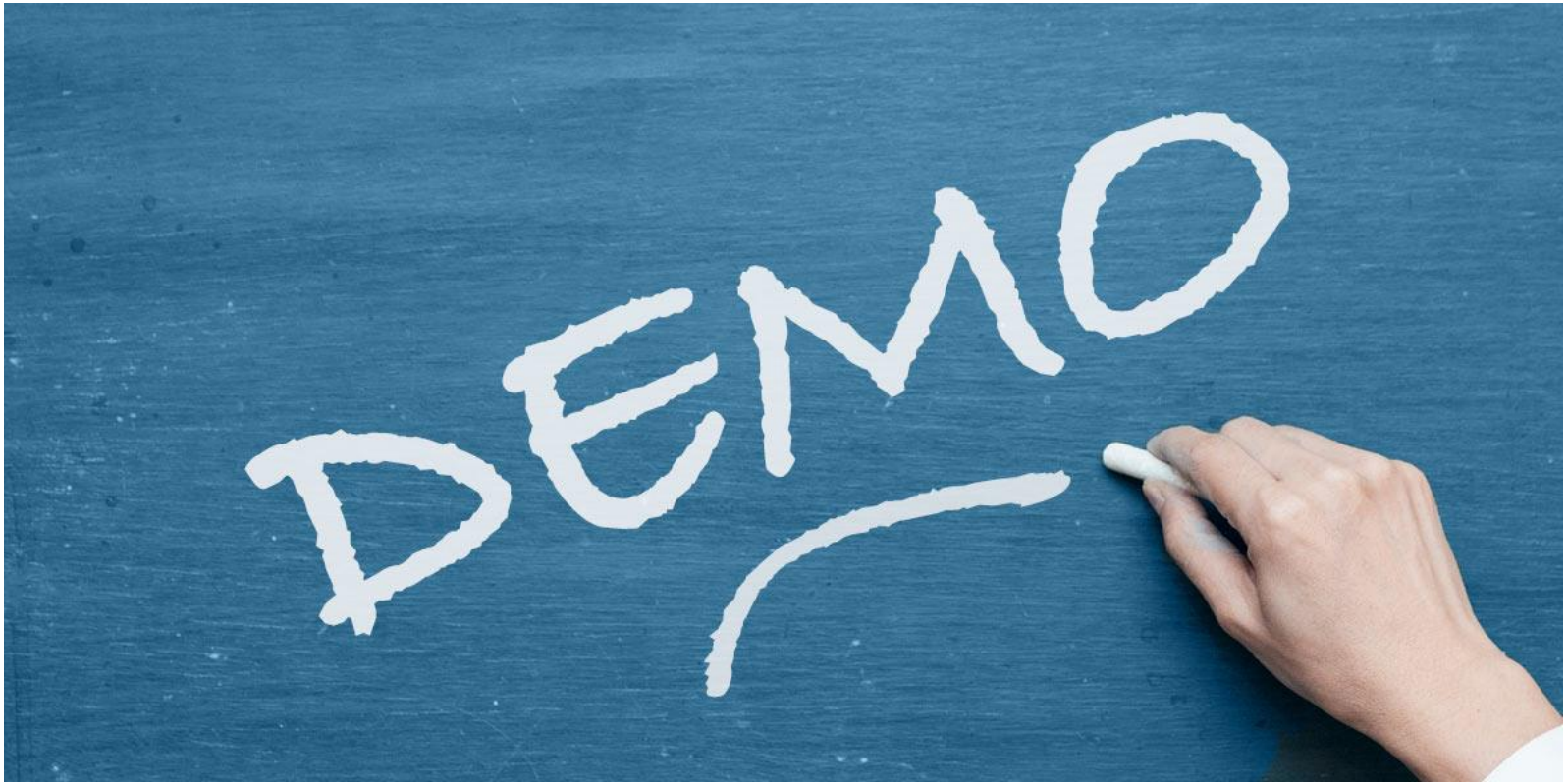
IOptions: Configure



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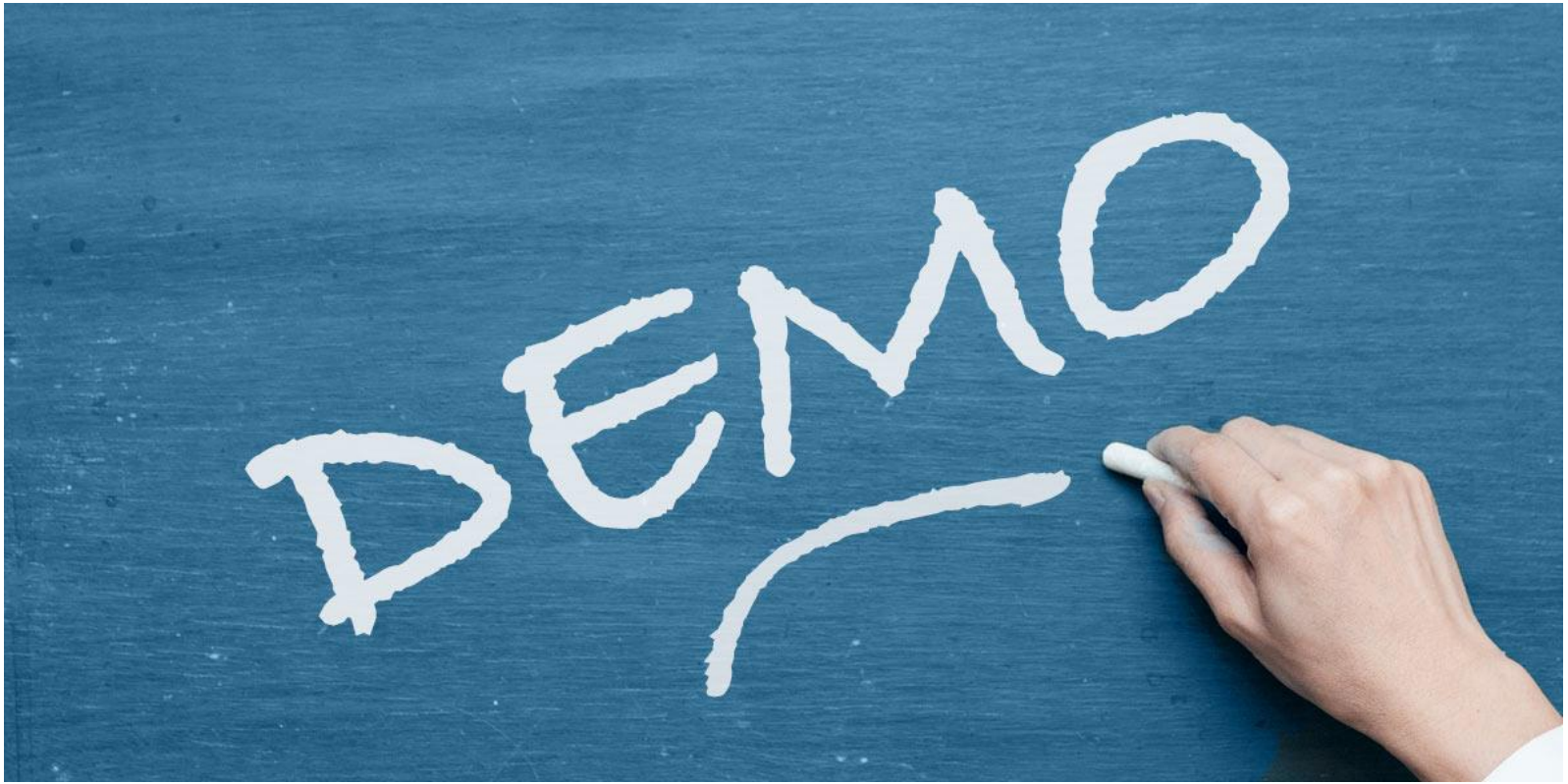
Examples



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References

Presentation & code
https://github.com/PhbsSmn/configuration-and-options

Microsoft configuration documentation
https://learn.microsoft.com/en-us/dotnet/core/extensions/configuration

Andrew Lock Custom configuration provider
https://andrewlock.net/creating-a-custom-iconfigurationprovider-in-asp-net-core-to-parse-yaml

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