

Building Configurable Applications Using .NET Generic Host

Understanding Configuration in .NET



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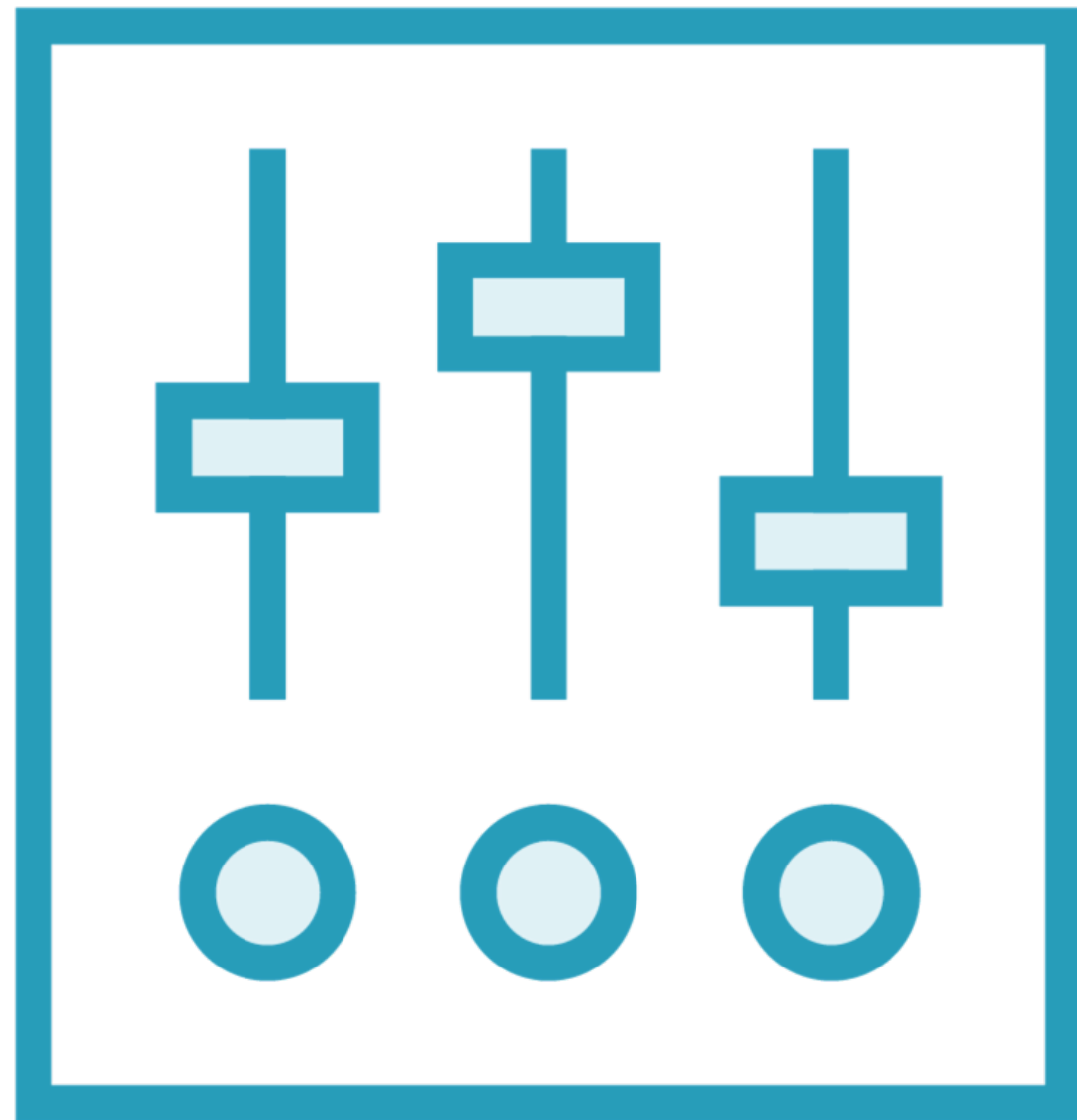
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Version Check

.NET 5.0 onwards

.NET Core 2.1 onwards

A Configurable Application



Portable

- Runs in different environments without rebuilding

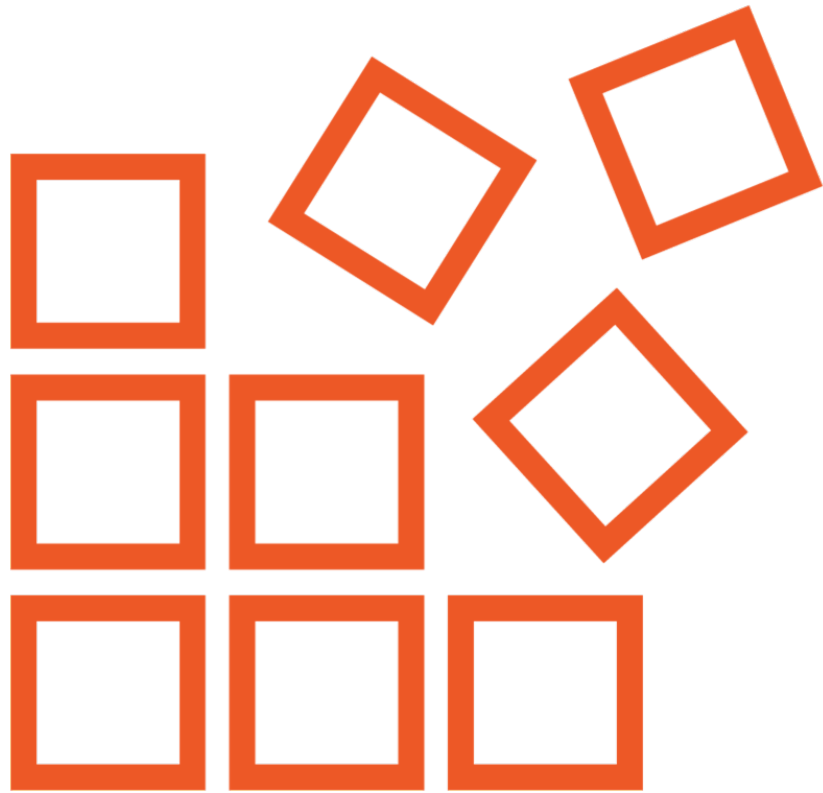
Flexible

- Can respond to changing business requirements

Maintainable

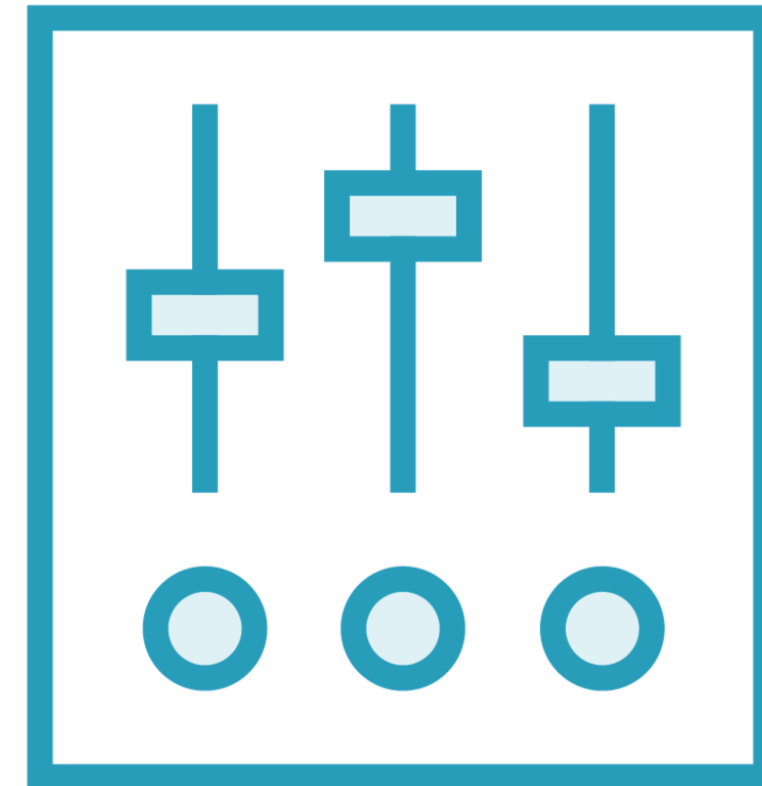
- Doesn't require full development cycle for a simple change

Types of Configuration



Compile-time

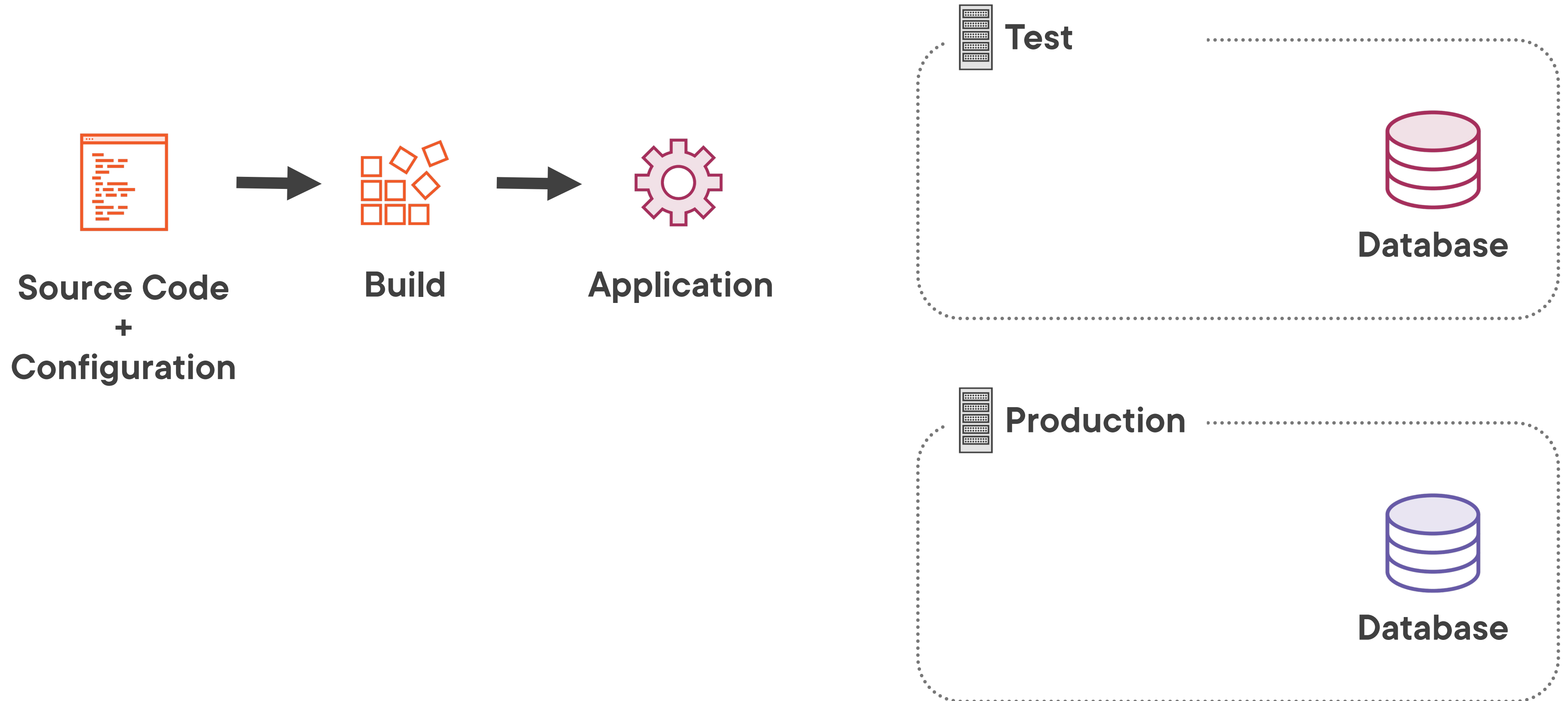
Configuration values built into the application



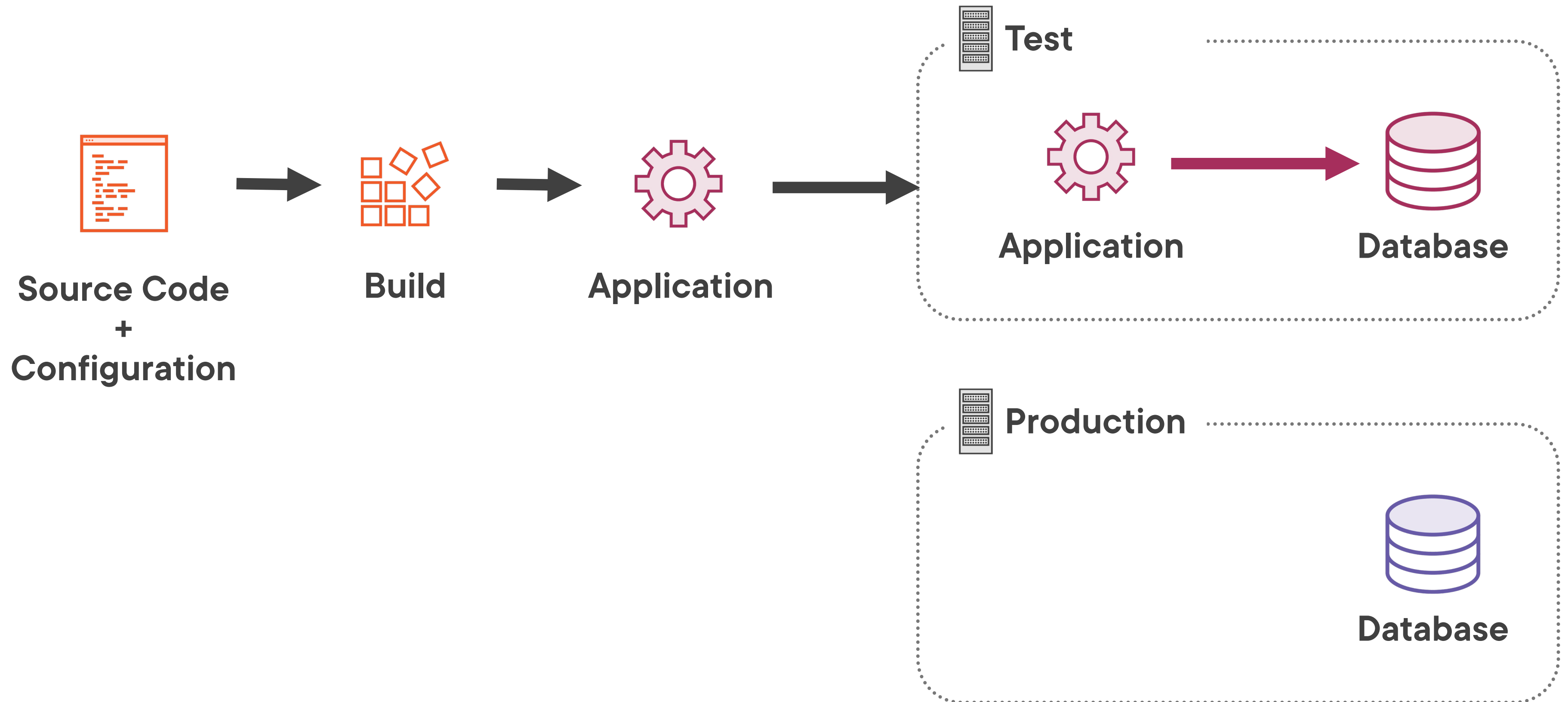
Runtime

Application loads configuration values at runtime

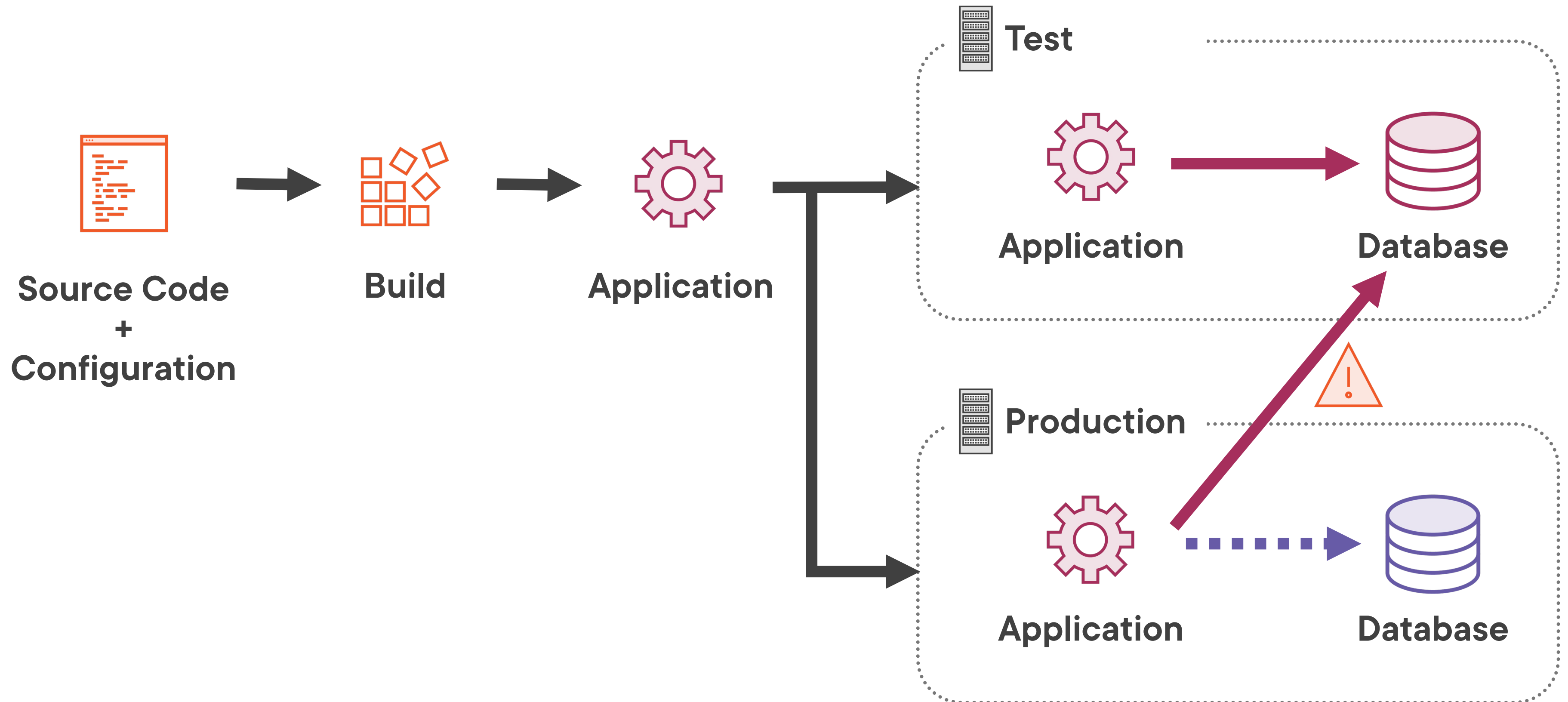
Compile-time Configuration



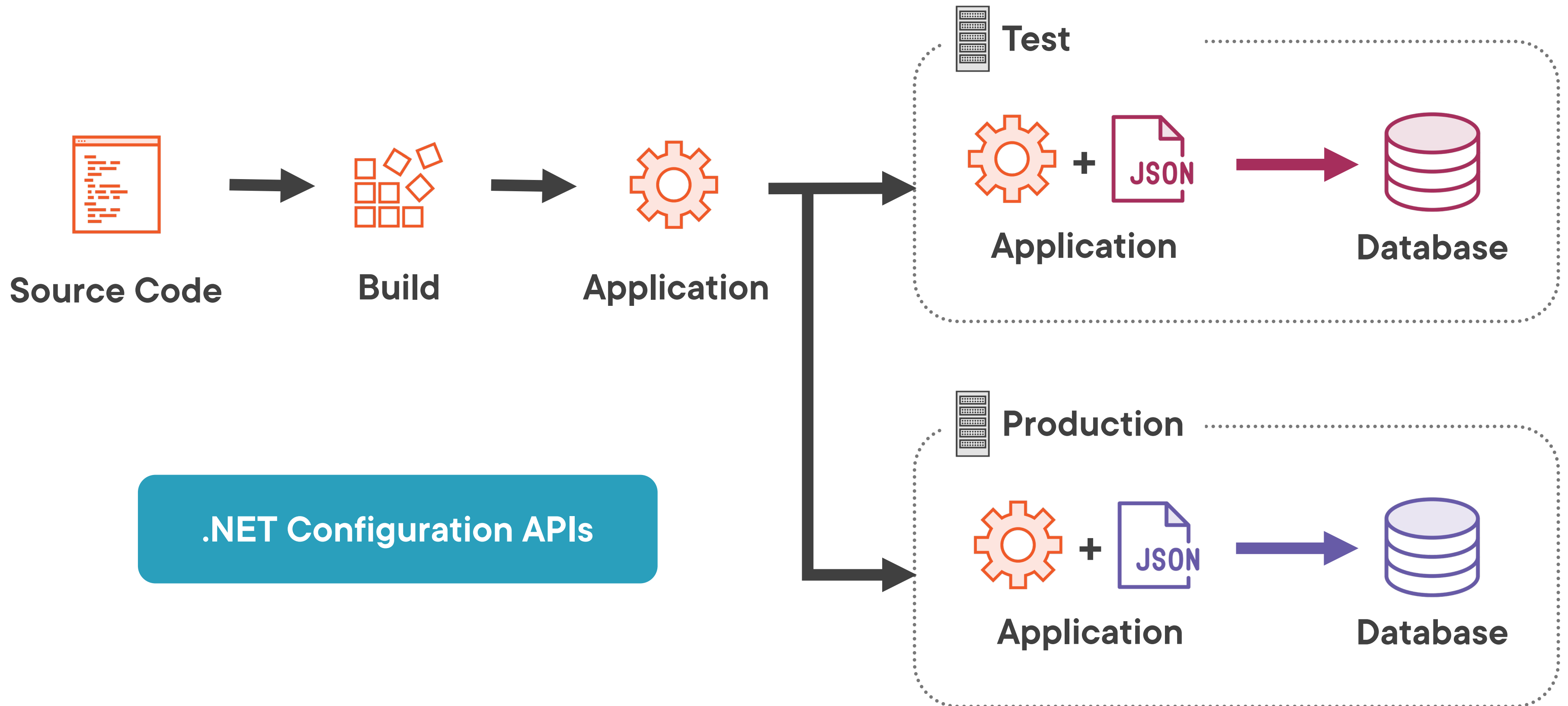
Compile-time Configuration



Compile-time Configuration



Runtime Configuration



Sells outdoor equipment

Online store

Competitive market



home > bags & travel

ESSENTIAL PACK

SKU: 48040747 |

★4.2

 | 10 reviews



\$259.99

Perfect for anyone starting out.

Color:



Quantity: < 1 >

Size: < S/M >

ADD TO CART

Zoom Zoom Out Reset

CUSTOMERS ALSO VIEWED



FIREBRAND KAYAK
\$499.95



HIGHLIGHTER HEAD
\$42.98



THE GOLDEN LINK
\$21.99



MEGA POKEY KIT
\$129.99



ESSENTIAL PACK
\$259.99



MOCCASINS
\$35.95

PRODUCT DETAILS

This expedition pack is designed for extended trips where a large capacity is essential. Designed as a 65 liter pack, it adjusts to 75 liters using an expandable collar on the main compartment. It also sports a bombproof compartment as well as a waterproof compartment, making this bag the best choice for the EXTREME ADVENTURER. All accessories in this kit are of the highest quality.

Specs

Backpack

- Capacity: 4,577 cu. in.: 75 L
- Weight: 4 lb. 6 oz
- Dimensions: 34"L x 14"W x 13"D
- Torso fit: 15" to 21"

Helmet

- Style: Climbing
- Construction: In-Mold
- Head Circumference: M/L: 58 - 63 centimeters | S/M: 53 - 59 centimeters
- Visor/Brim: No
- Weight: M/L: 245 grams | S/M: 230 grams

Construction

Backpack

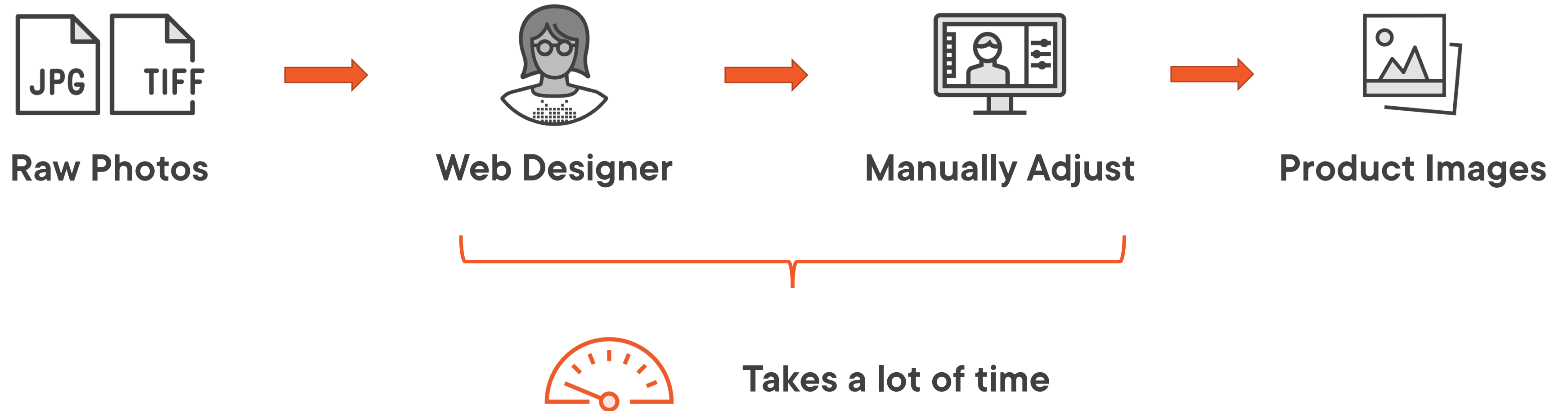
- Carbon fiber clasps
- 1000 denier CORDURA® - unparalleled strength to weight ratio
- Space grade memory foam pads for best support and comfort

Helmet

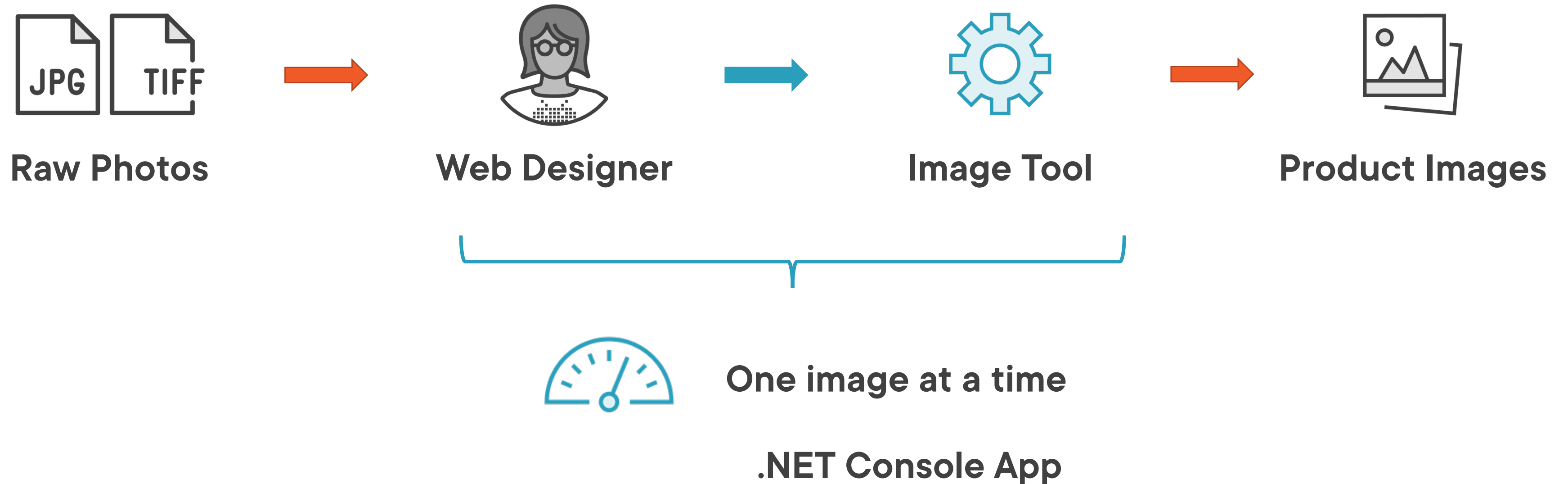
- Carbon fiber outer shell
- Expanded polystyrene foam layer for absorbing impact
- Ventilation ports keeps head cool

Additional Features

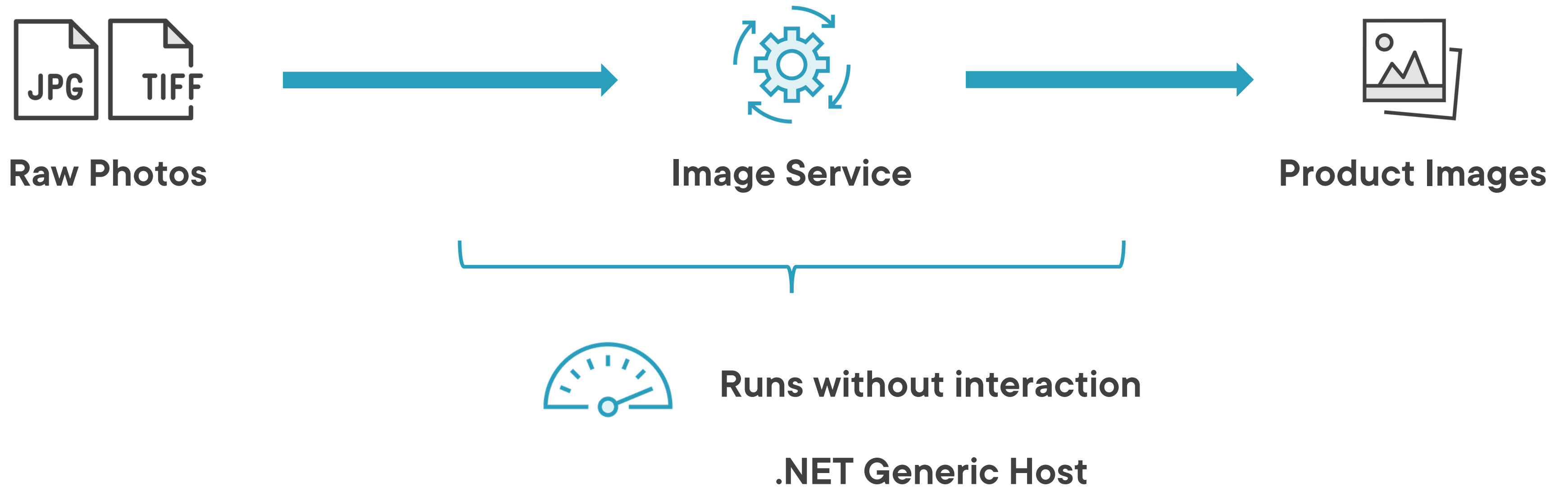
Carved Rock Fitness: Image Process



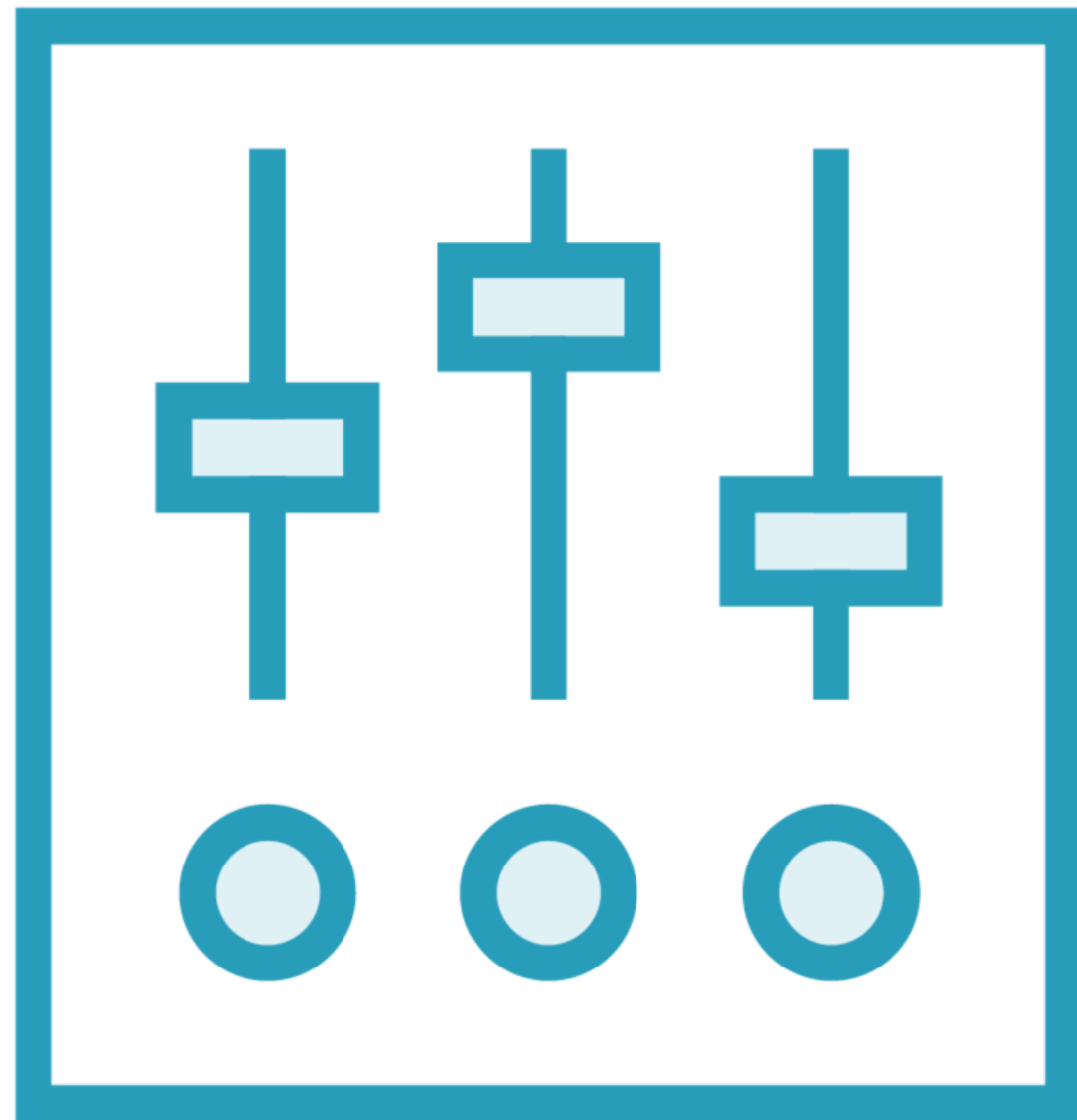
Carved Rock Fitness: Image Process



Carved Rock Fitness: Image Process



Possible Configuration



Images dimensions

- Thumbnail, medium and large

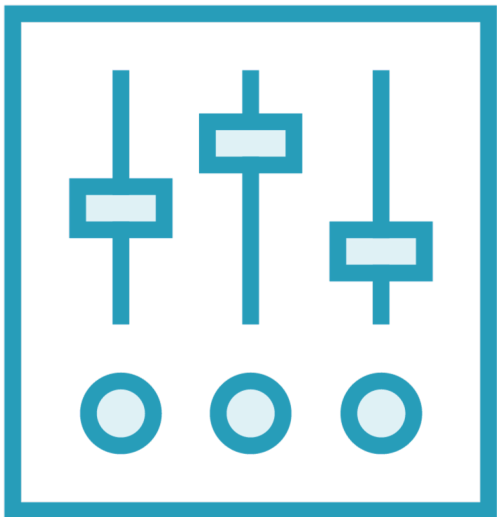
Compression level

Watermark text

Output image filename prefixes

- E.g. thumbnail-backpack.jpg

Configuration in .NET

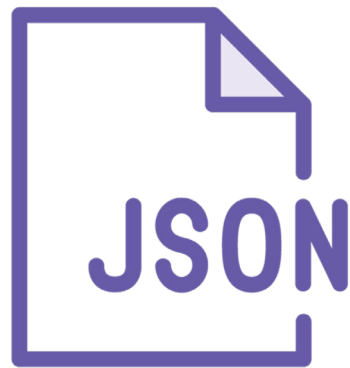


Configuration

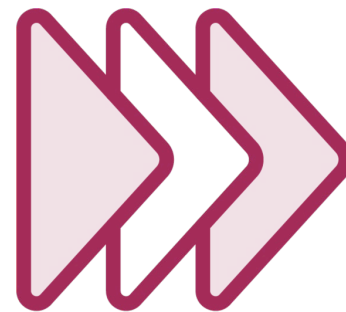
Key-value pairs

Key	Value
thumbnailWidth	52
compressionLevel	0.2
...	...

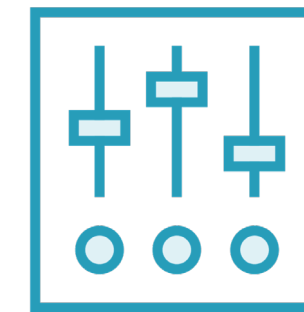
Configuration in .NET



Source



Configuration
Provider



Configuration

```
{  
  "thumbnailWidth": 48,  
  "compressionLevel": 0.7  
}
```

Key	Value
thumbnailWidth	48
compressionLevel	0.7

.NET Configuration Providers



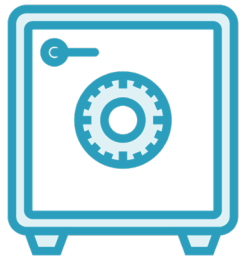
Files e.g. JSON, XML, INI



Command-line parameters



Environment variables

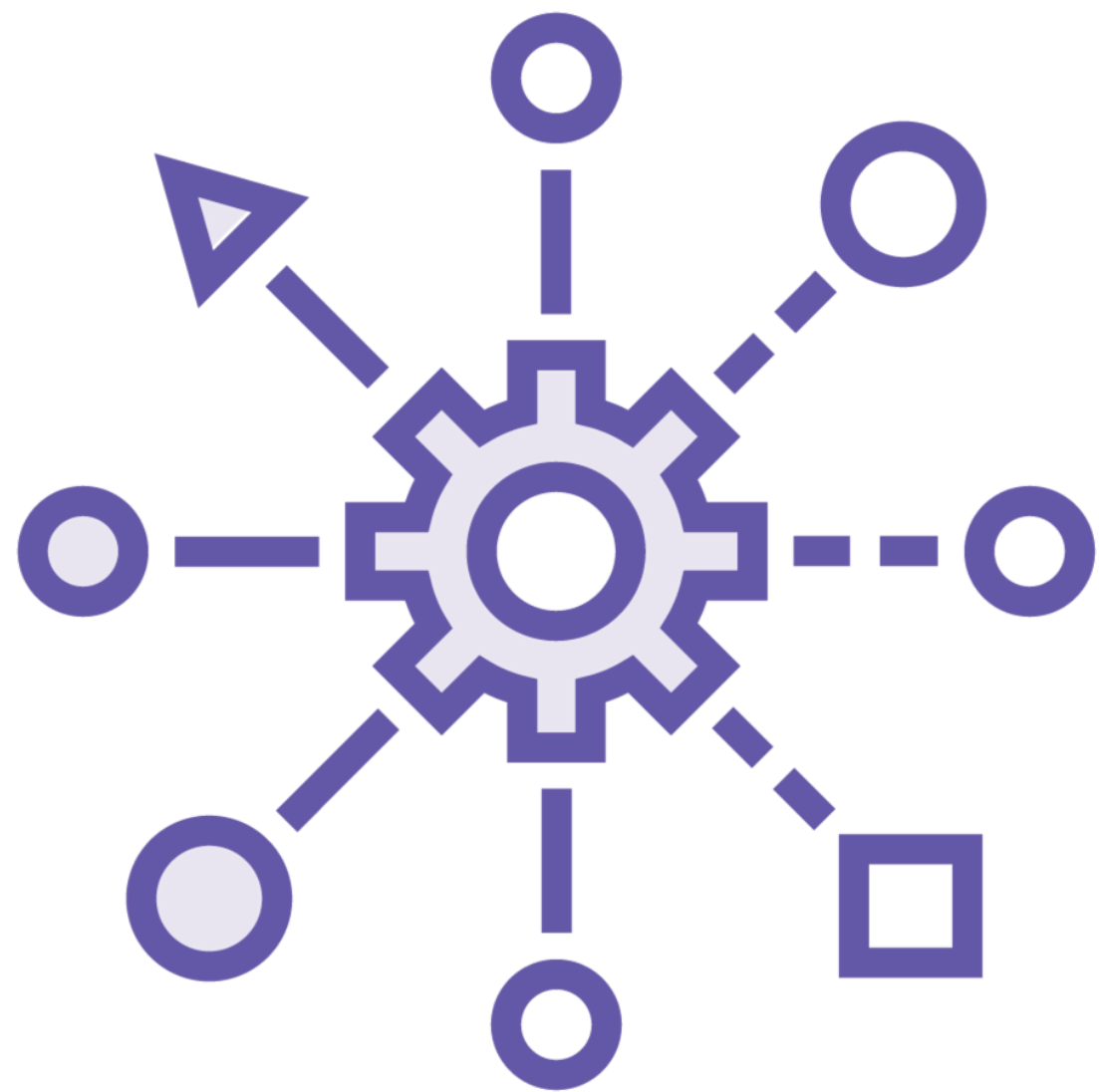


Azure Key Vault



... And more, with option to create a custom provider.

Modular Design



Follows .NET modular design using NuGet

- Only reference what you need

Configuration API

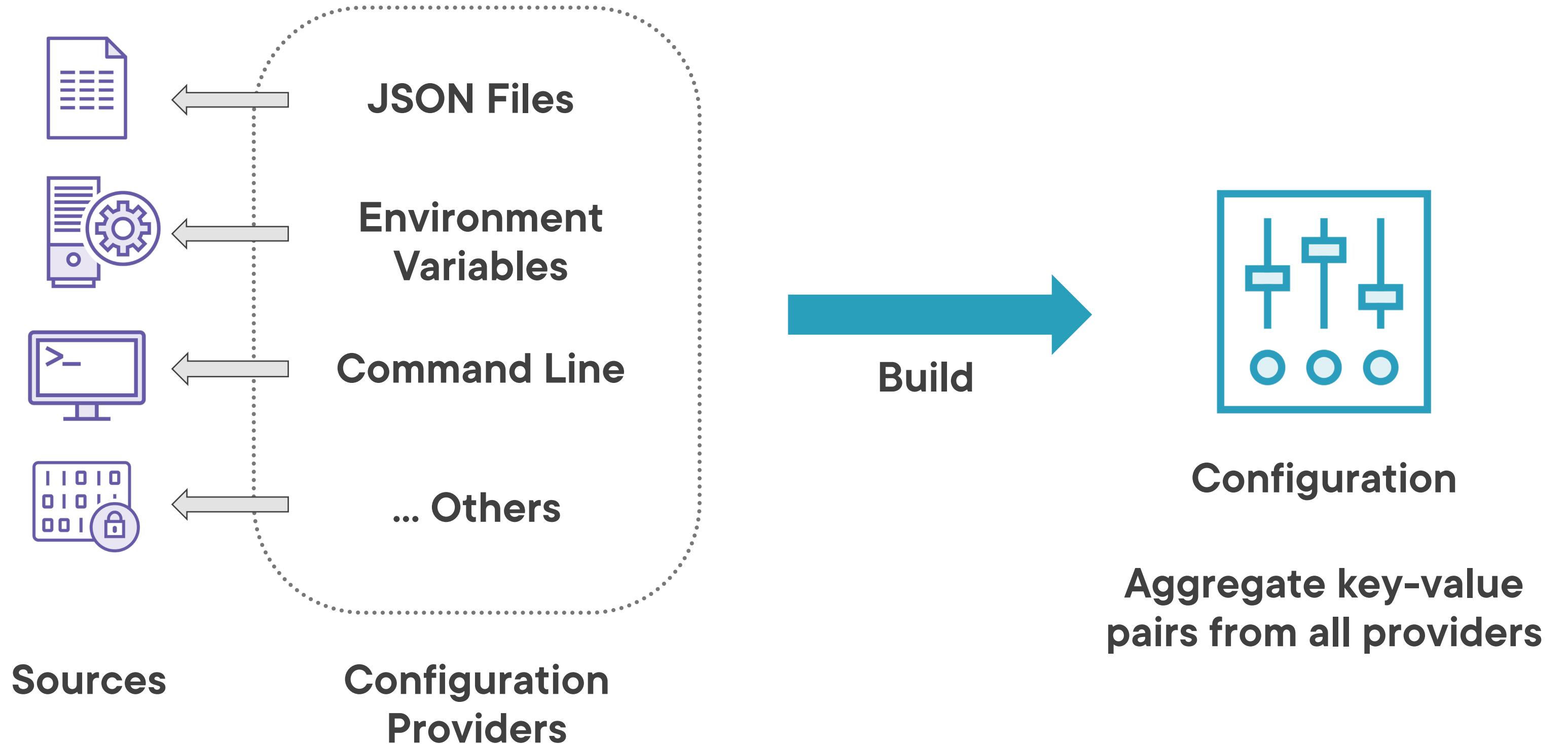
- Microsoft.Extensions.Configuration

Configuration providers are separate NuGet packages, e.g.

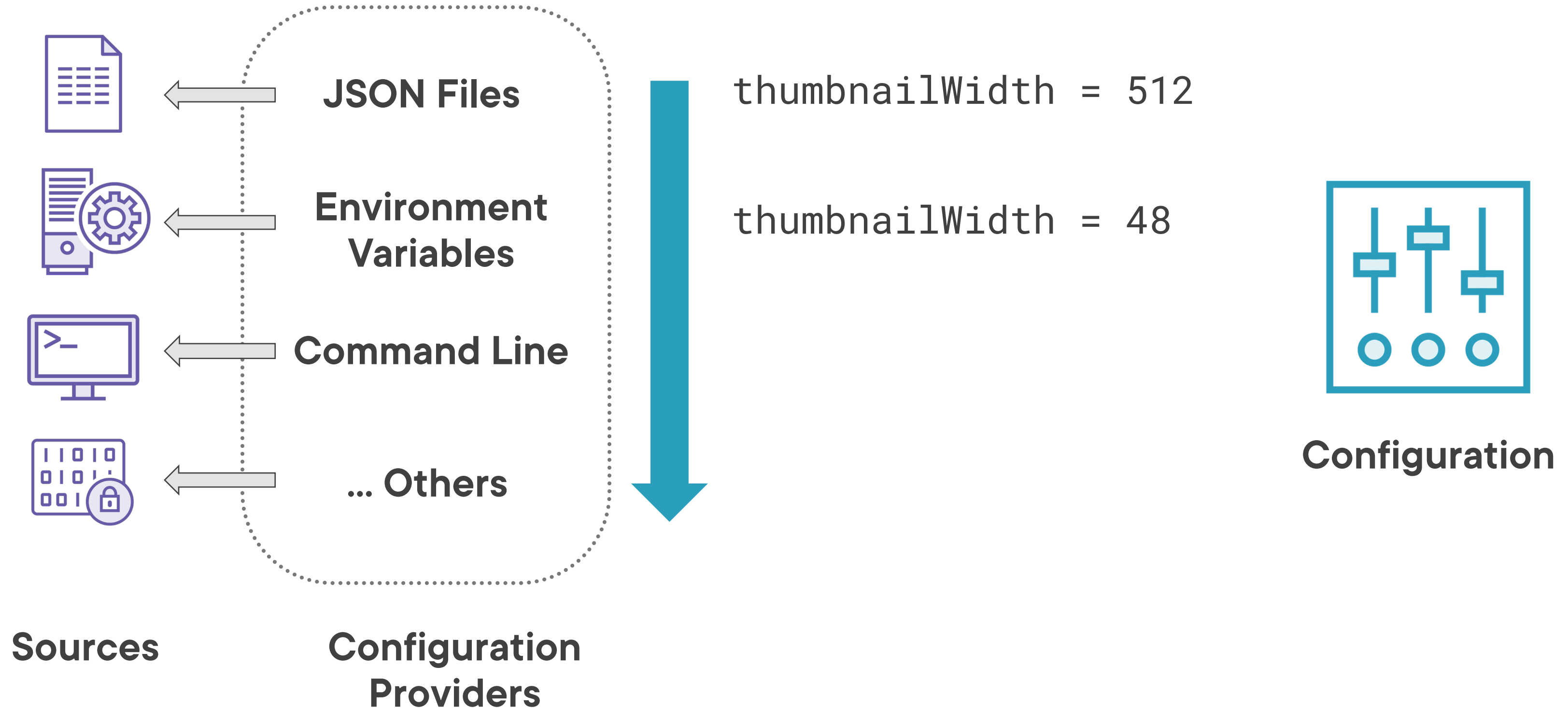
- Microsoft.Extensions.Configuration.Json

Not limited to using just one provider

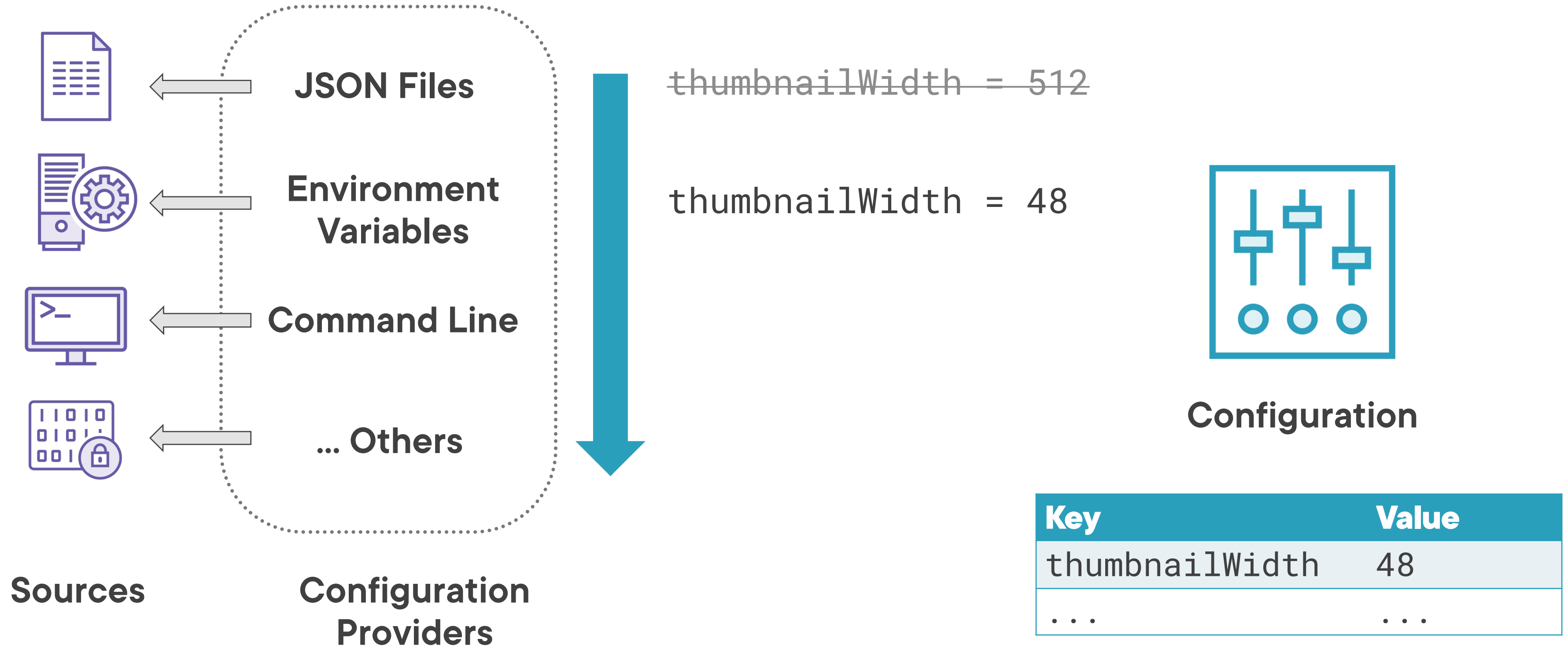
Building Configuration



Building Configuration



Building Configuration



Summary



Configurable applications are flexible, portable and maintainable

Runtime vs. compile-time configuration

.NET Configuration

- **Providers load from a configuration source**
- **Builds dictionary of key-value pairs**
- **Multiple providers work in order, overwriting duplicate keys.**

Modular design using NuGet packages

Up Next:

Exploring the Configuration API
