

Build AI Apps the easy way with Semantic Kernel and .NET Aspire SDKs



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About me




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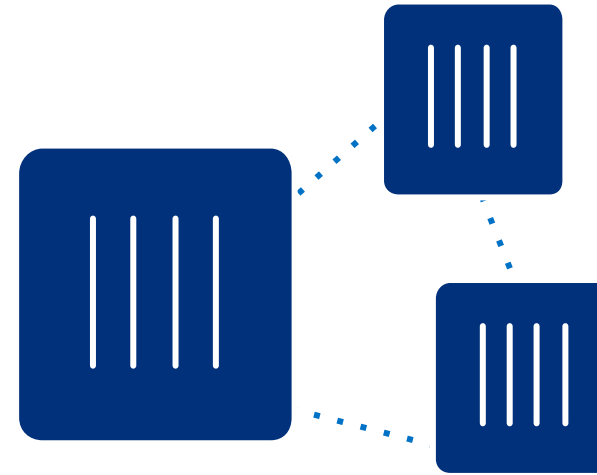
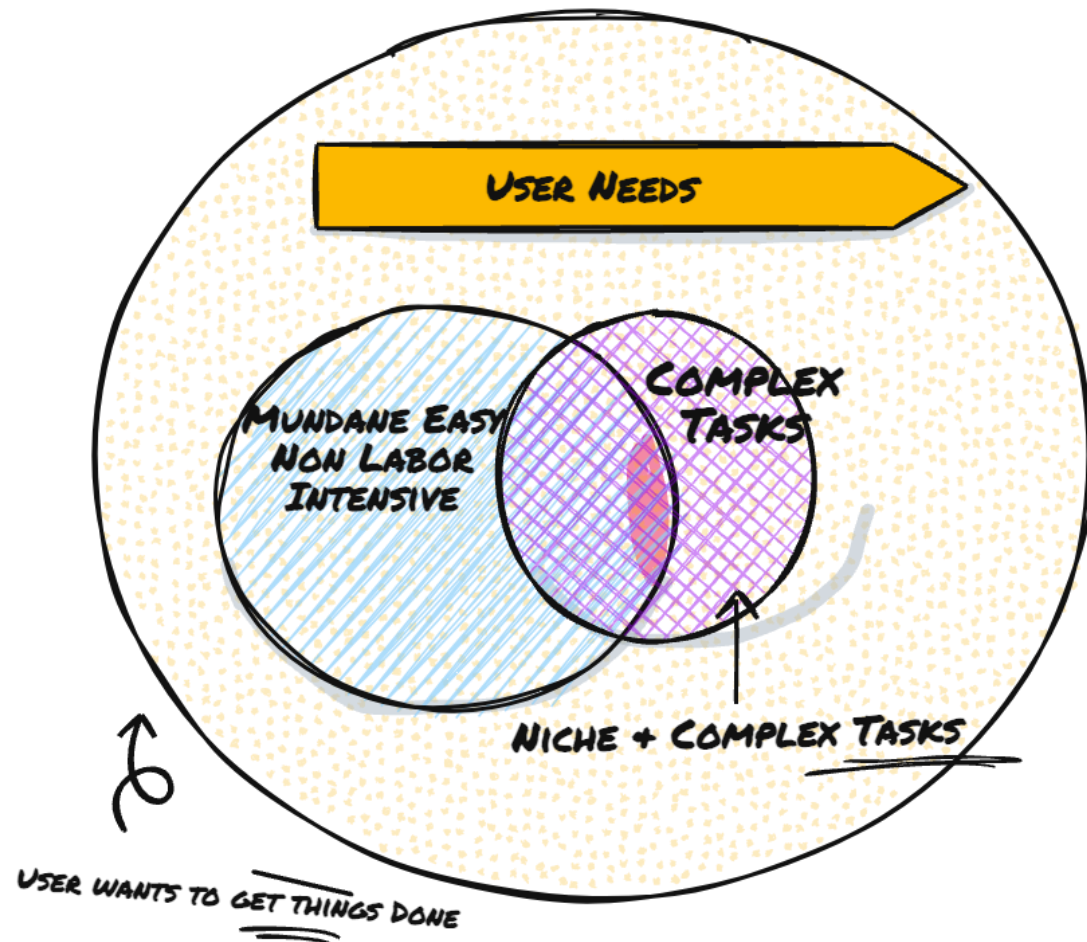
- > ISV Architect, ANZ
- > AI Champ lead, Partners ANZ
- > Kicked off APAC Semantic Kernel Office Hours
- > Azure + CNCF certified
- > Startups, Tech, Employability co-lead Microsoft Melbourne



Agenda

- *What we're going to cover? And not cover?*
- *Let's build!* 
 - *Adding an assistant to the Aspire Shop sample*
- *Further learning*

Why we're doing this



Cloud Native way



Intelligent Assistant

.NET Aspire



.NET Aspire is a **stack** for building **resilient**, **observable**, and **configurable** cloud-native applications with .NET

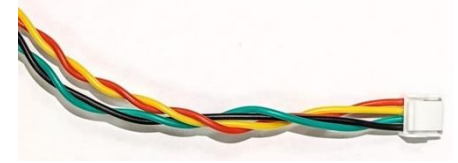


.NET Aspire includes a curated set of components enhanced for cloud-native fundamentals including **Telemetry**, **Resilience**, **Configuration**, **Health Checks**, and **Composition**

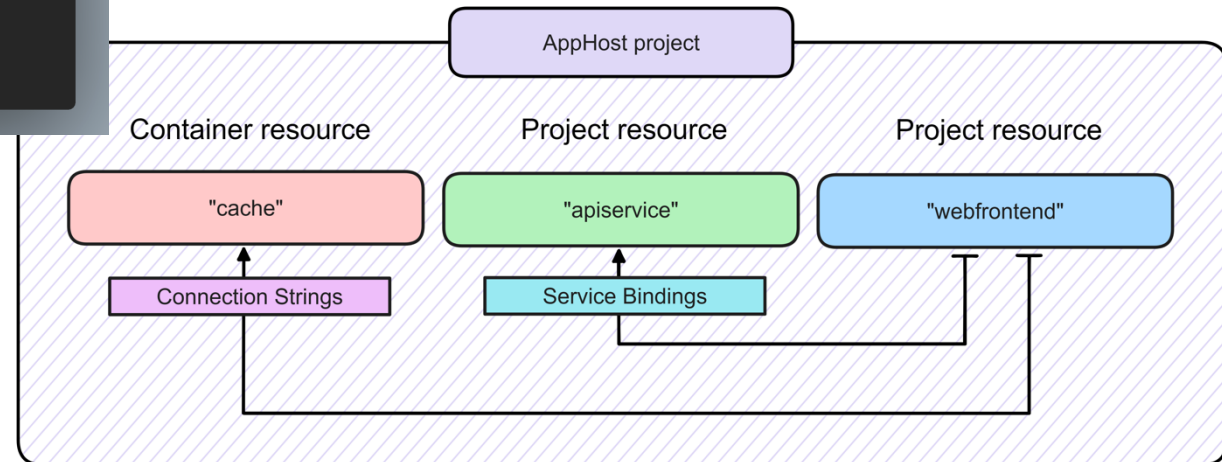


.NET Aspire makes it easy to **discover**, **acquire**, and **configure** essential dependencies for cloud-native applications on day 1 and day 100

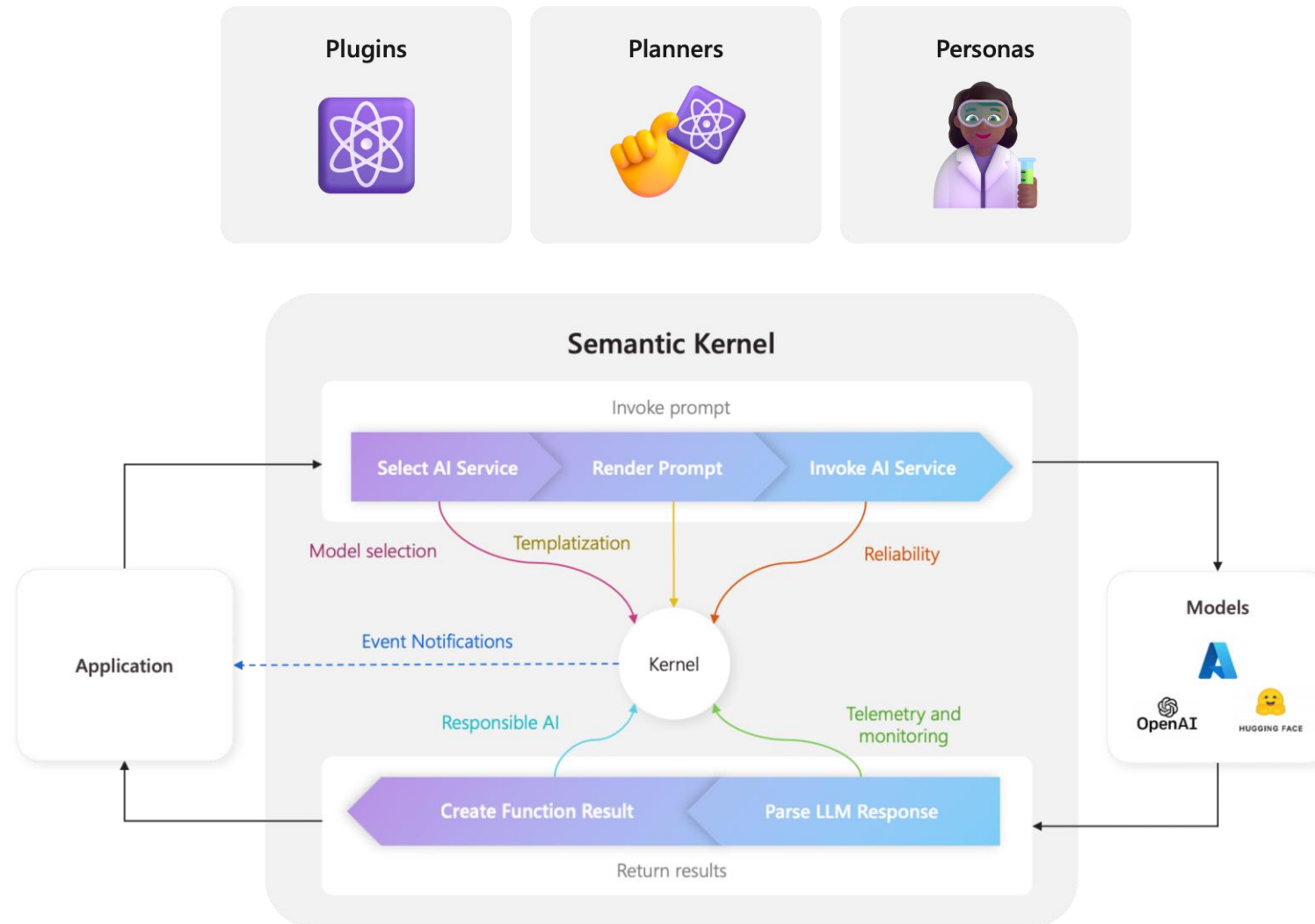
Wiring them all in Aspire



```
var builder = DistributedApplication.CreateBuilder(args);  
var cache = builder.AddRedis("cache");  
var apiservice = builder.AddProject<Projects.AspireApp_ApiService>("apiservice");  
builder.AddProject<Projects.AspireApp_Web>("webfrontend")  
    .WithReference(cache)  
    .WithReference(apiservice);  
builder.Build().Run();
```



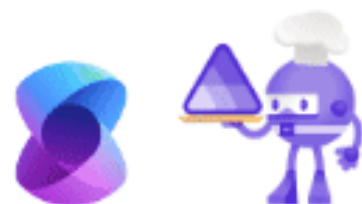
Semantic Kernel



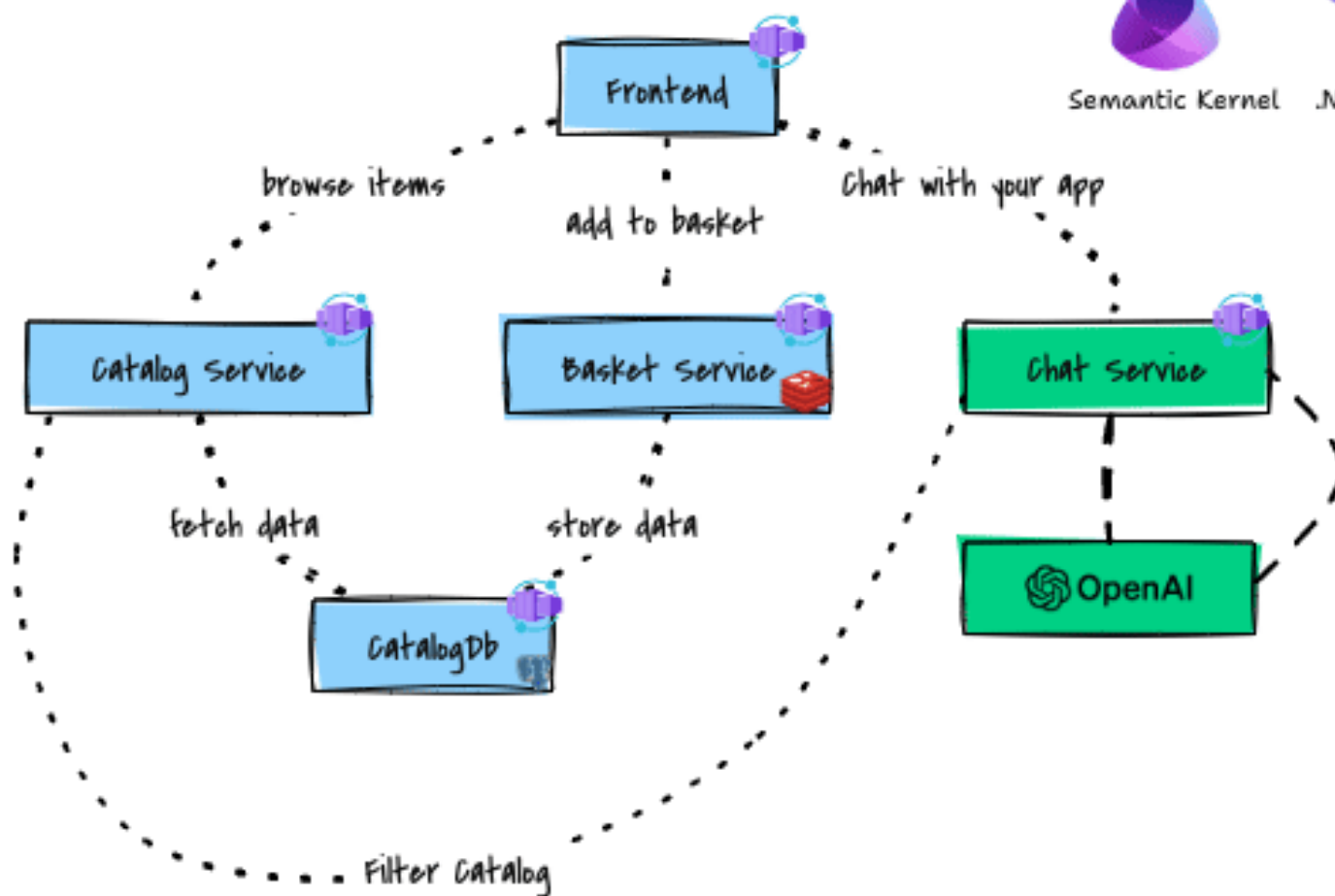
Dotnet Aspire x Semantic Kernel Better Together



Aspire Shop + Assistant



Semantic Kernel .NET Aspire



>> [AspireShop @ github.com/dotnet/aspire-samples/](https://github.com/dotnet/aspire-samples/)

> Aspire: v8.0.0-**preview.6**.24214.1

> SK: dotnet-1.9.0

***See it all in
action!***

AspireShop Smart

AspireShop: Welcome to AspireShop! I can help you with browsing the catalog item, say the item you're looking for and I'll help you navigate you to the correct catalog items.

You: I'd like purple hoodie please

AspireShop: I have found a purple hoodie for you: Kudu Purple Hoodie - \$8.50.

You: Show me all t-shirts

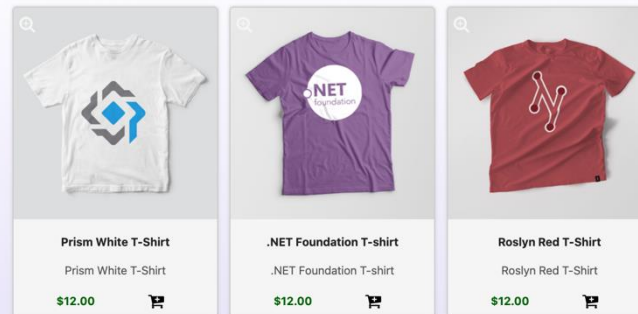
AspireShop: I have found the following t-shirts:

1. Prism White T-Shirt - \$12.00
2. .NET Foundation T-shirt - \$12.00
3. Roslyn Red T-Shirt - \$12.00

Let me know if you need any more information about these items.

Type a message...

Product Catalog



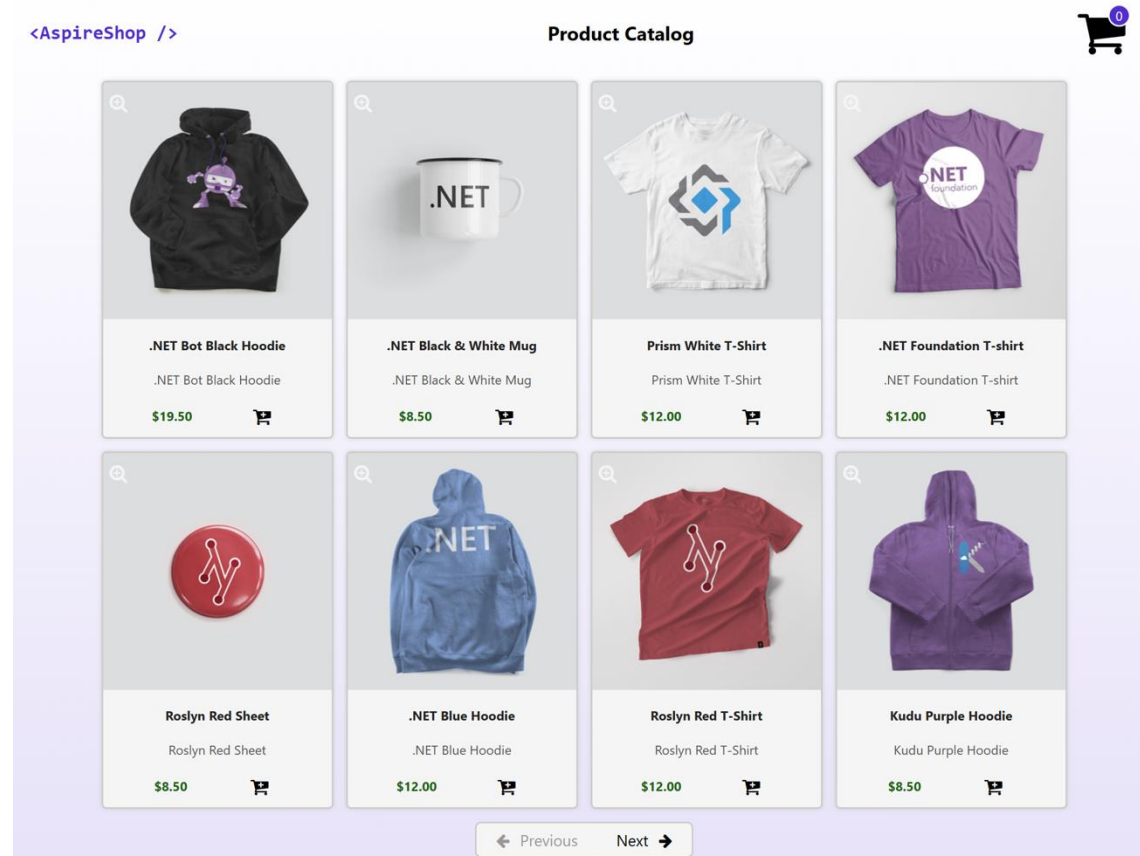
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Powered by .NET 8.0.4

GitHub Repository

Aspire Shop Sample

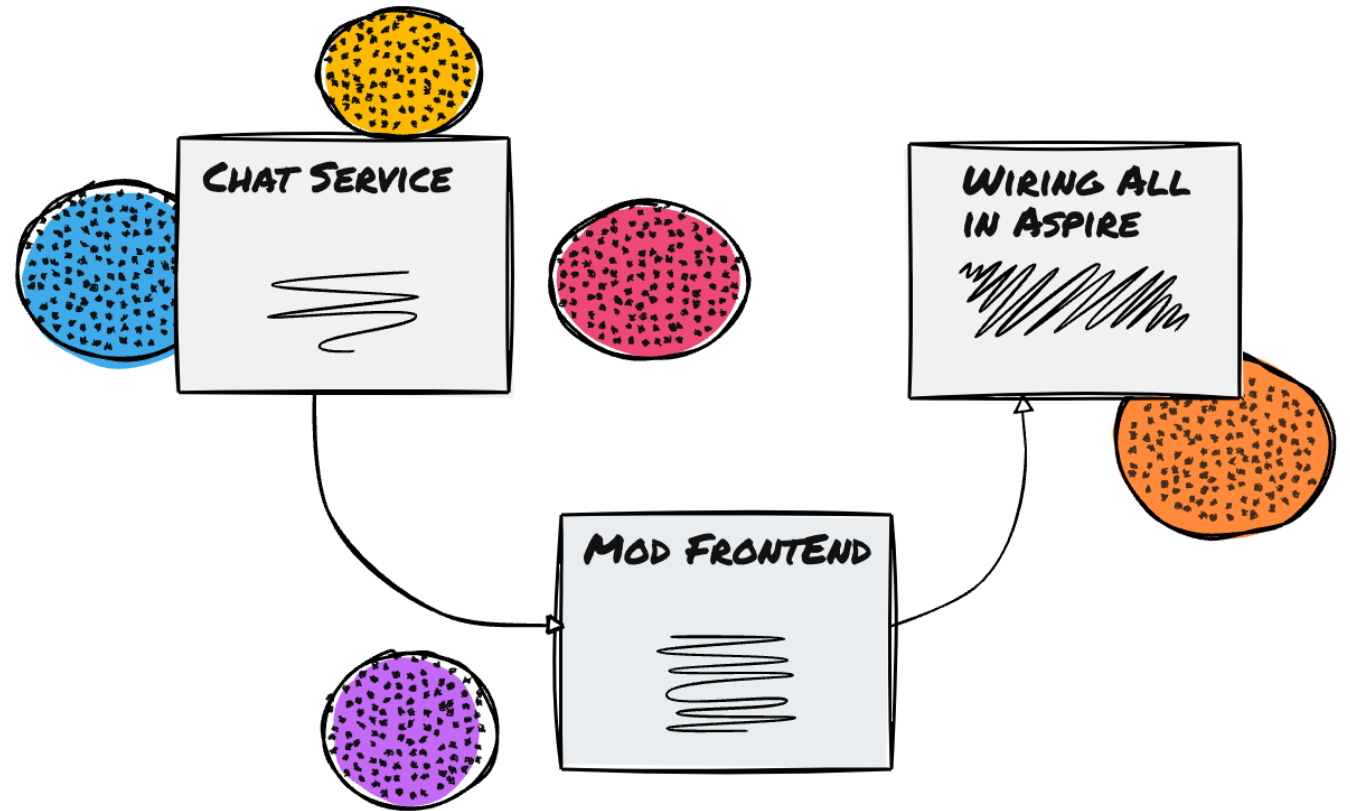
>> [AspireShop @ github.com/dotnet/aspire-samples/](https://github.com/dotnet/aspire-samples/)



> Aspire: v8.0.0-**preview.6.24214.1**

> SK: dotnet-1.9.0

Let's build



You've been warned 😊

>> Not production ready

>> Demo purpose

* SK is GA (*.NET)

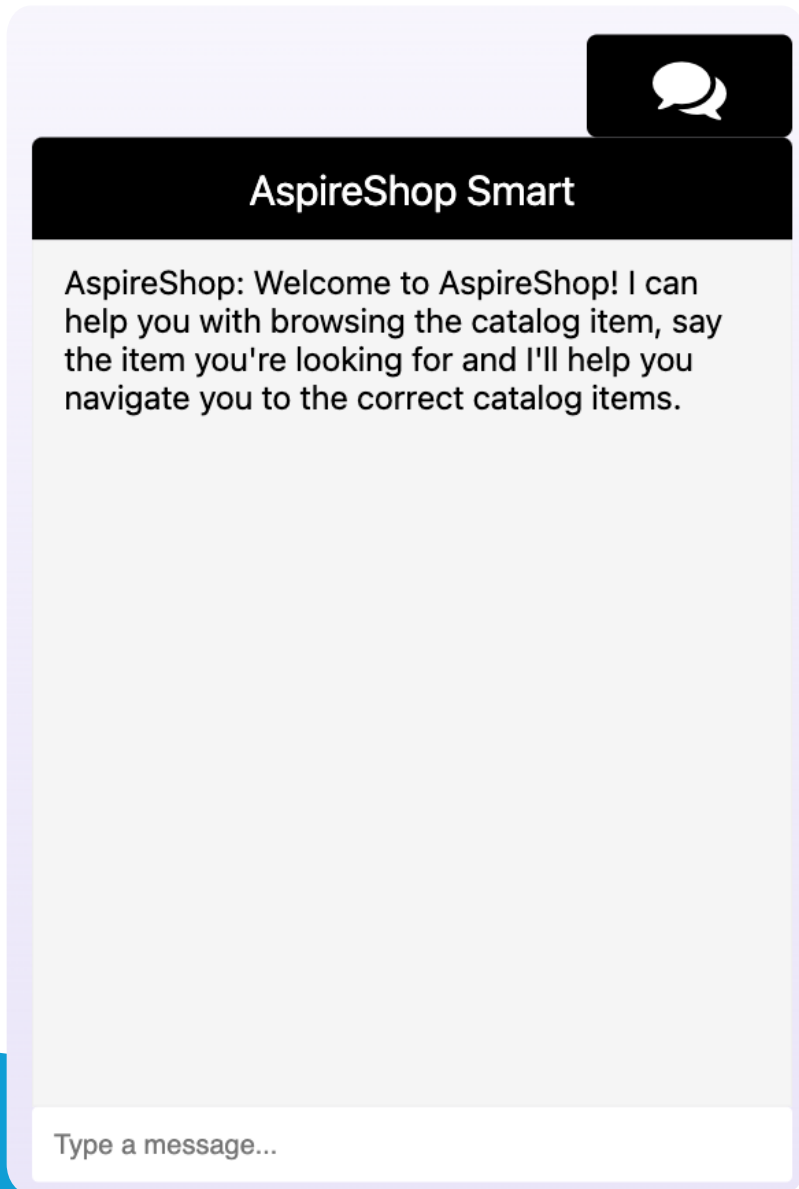
* Dotnet Aspire is not GA yet



Chat Service API

- > A simple controller with ``api/chat`` endpoint
- >> Kernel with Dependency Injection
- >> Plugins: System Prompt + Filter Catalog Item
- >> Add Few Shot Examples

Part 1 – Aspire Demo



Frontend

> Add a simple Chat box with user input

>> Toggle-able

>> Input text

Part 2 – Aspire Frontend

Deploy and run

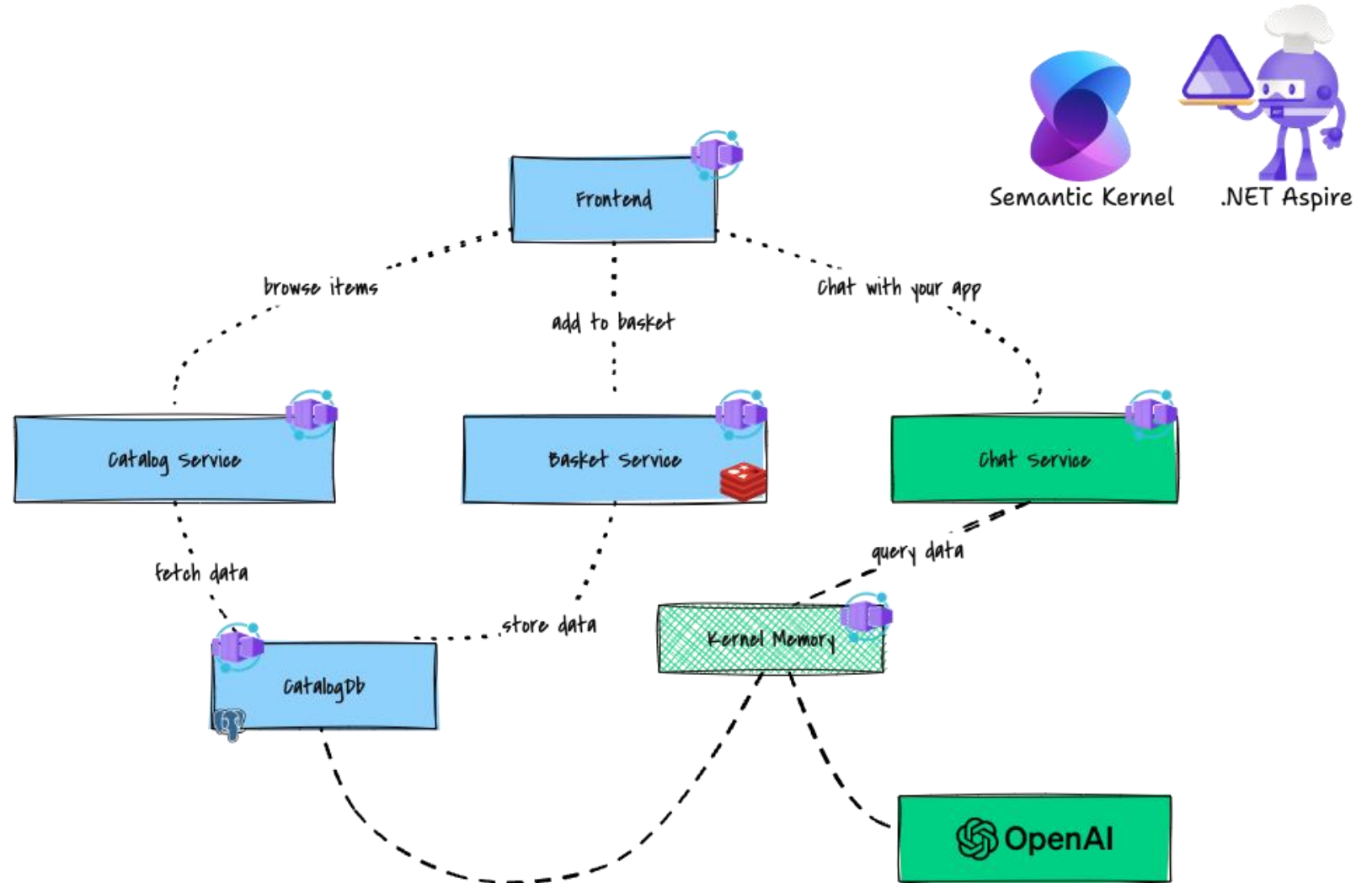
> Use ``azd auth login`` ``azd init`` & ``azd up``

Future improvements

Use:

>> Memories

>> Robustness



Further learning

>> github.com/dotnet/aspire

>> github.com/microsoft/semantic-kernel

>> <http://github.com/microsoft/kernel-memory>

Join SK Office Hours at aka.ms/sk/officehours

Join Aspire Discussions github.com/dotnet/aspire/discussions

Repo – TBD

Q & A



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