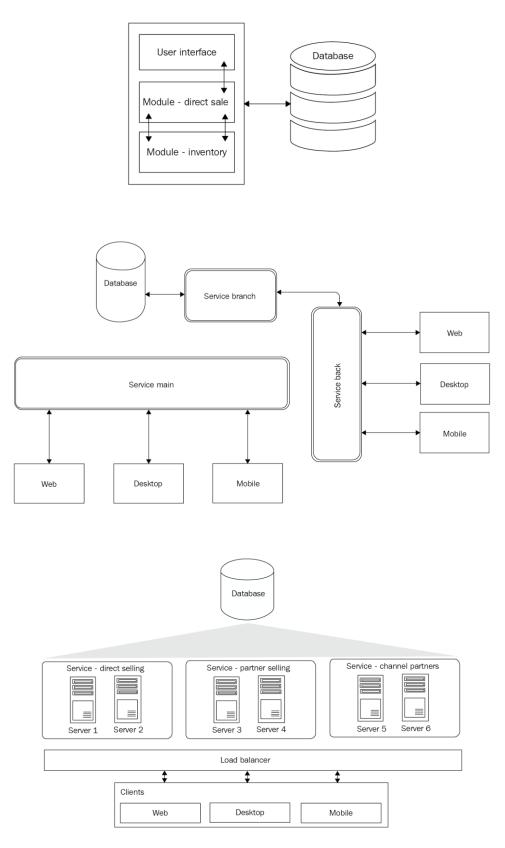
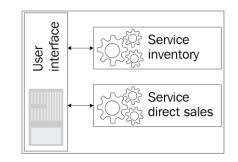
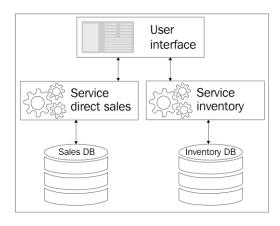
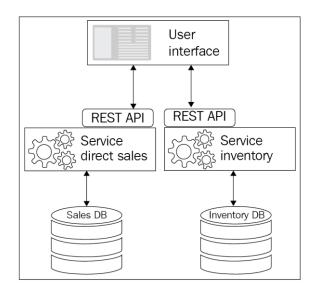
Chapter 1: An Introduction to Microservices

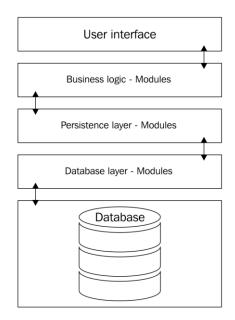


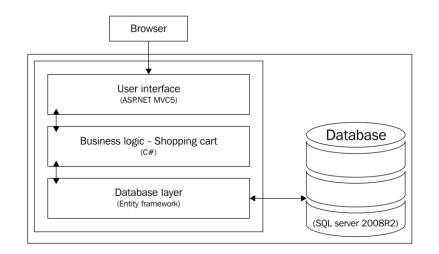


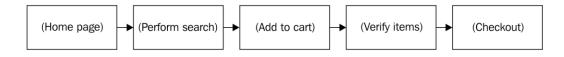


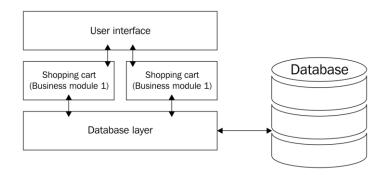


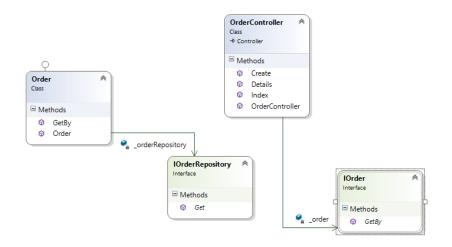


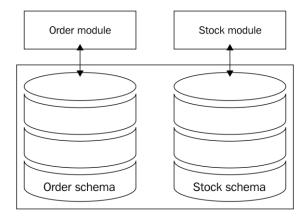


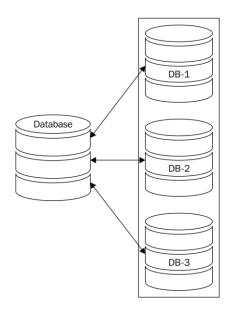


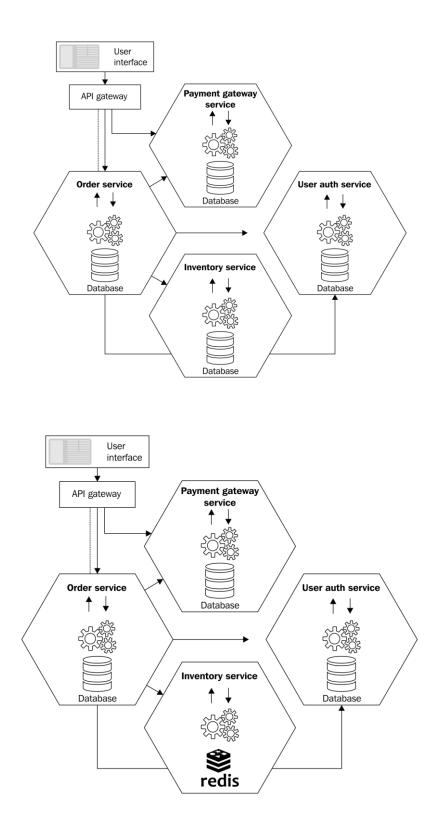




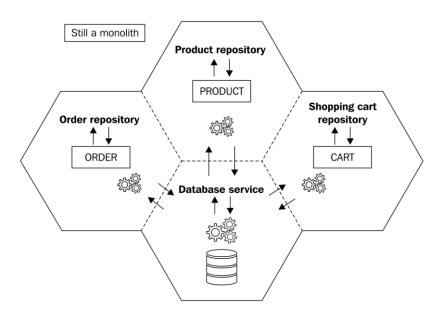




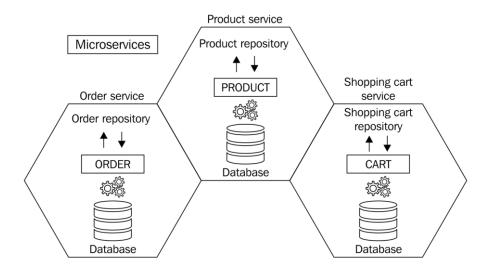


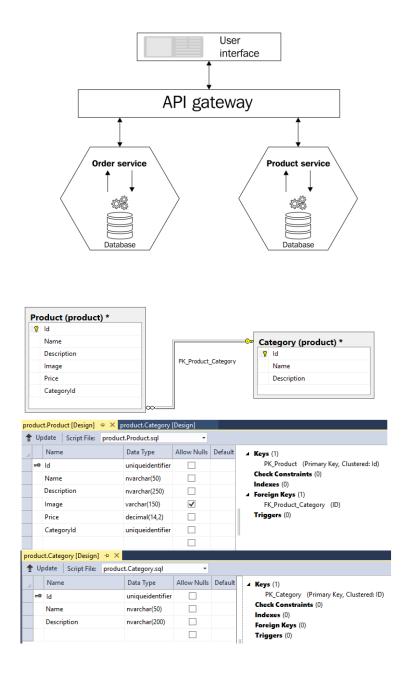


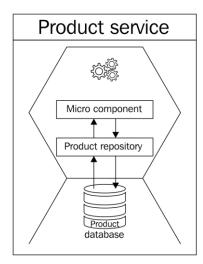
Chapter 2: Implementing Microservices



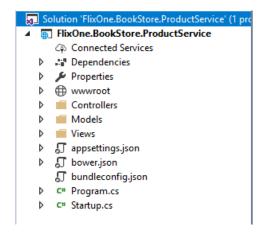
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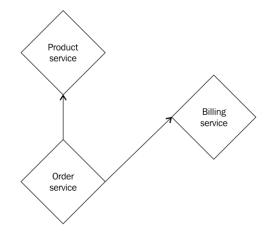
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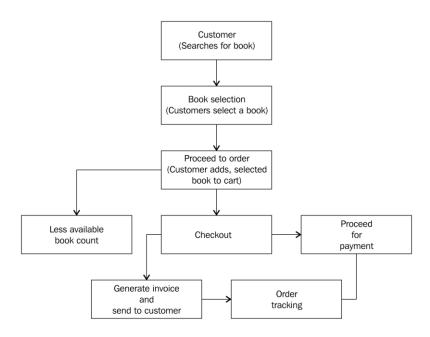
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GET /api/product/productlist				
GET /api/product/product/{productid}				
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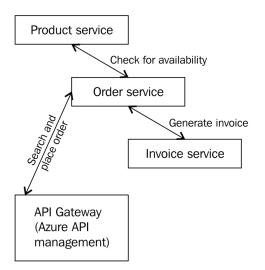
Chapter 3: Integration Techniques and Microservices

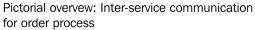


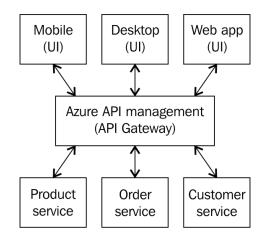
Rest API - Pictorial overview of sync communication



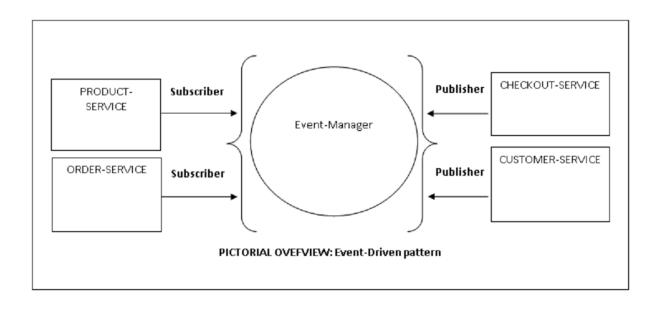
Pictorial view: Process of purchasing a book

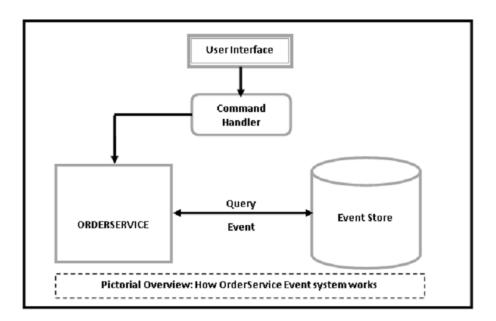


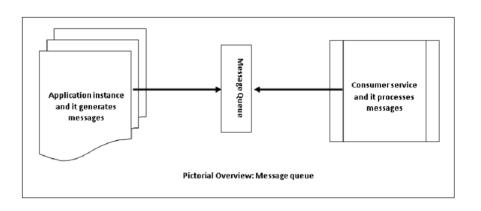


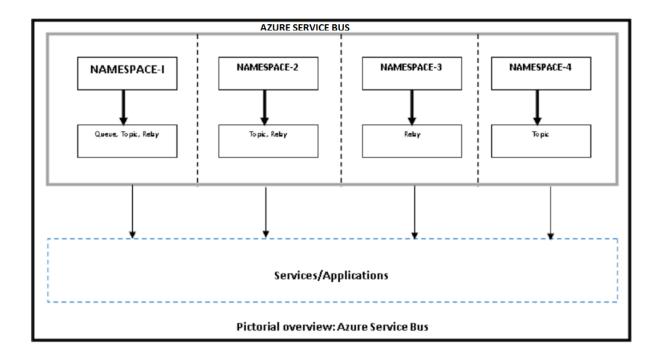


Pictorial overview: API Gateway









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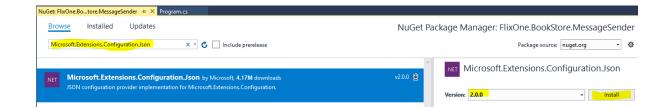
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Message time to live (default)	days	~
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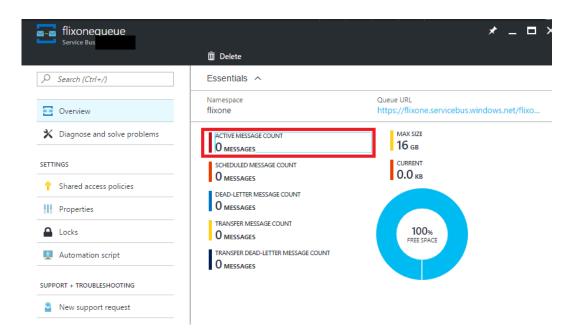
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Sending message: #3:A message from FlixOne.BookStore.MessageSender.	
Sending message: #4:A message from FlixOne.BookStore.MessageSender.	
Sending message: #5:A message from FlixOne.BookStore.MessageSender.	
Sending message: #6:A message from FlixOne.BookStore.MessageSender.	
Sending message: #7:A message from FlixOne.BookStore.MessageSender.	
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SUPPORT + TROUBLESHOOTING	TRANSFER DEAD-LETTER MESSAGE COUNT O MESSAGES		
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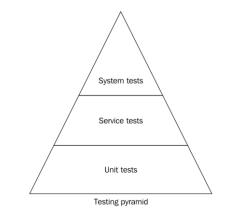


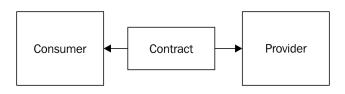


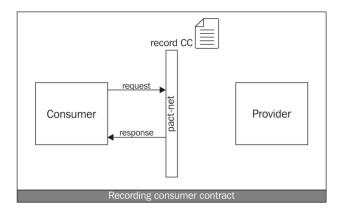
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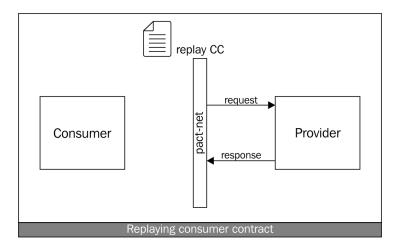


Chapter 4: Testing Microservices





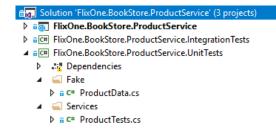




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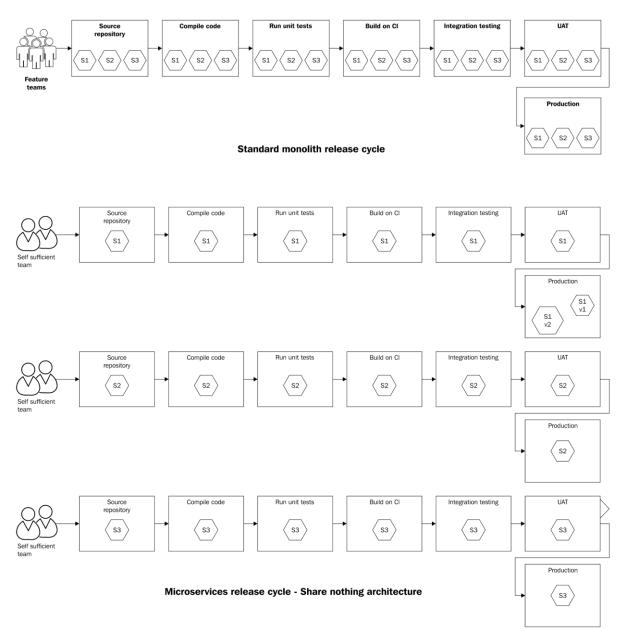


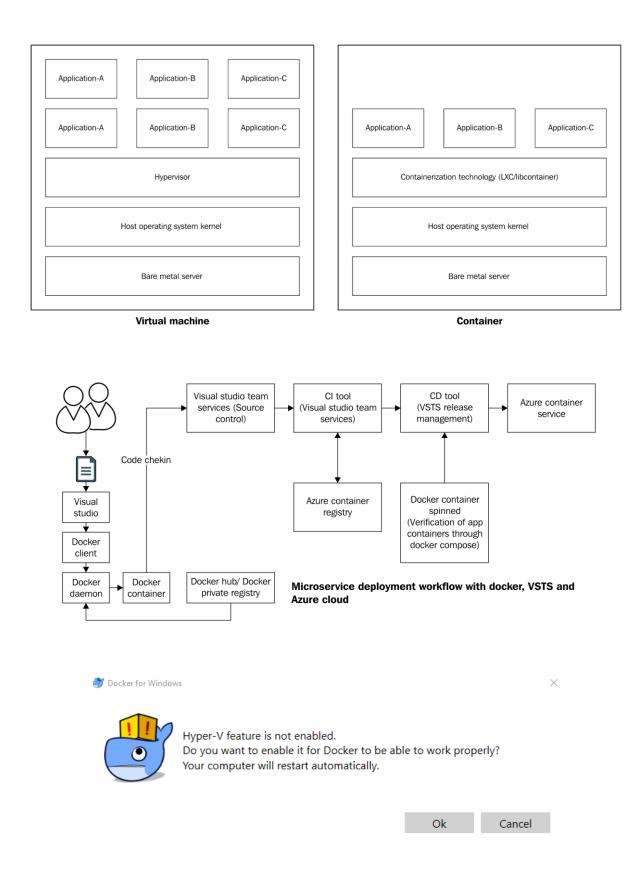
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Chapter 5: Deploying Microservices





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€ Solution 'FlixOne.BookStore.ProductService' (2 projects)

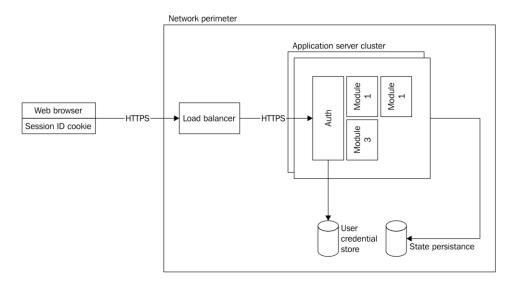
- 🔺 🍃 docker-compose
 - * 🗋 docker-compose.ci.build.yml
 - 🕨 * 🗋 docker-compose.yml
- ▲ + . FlixOne.BookStore.ProductService
 - Connected Services
 - Dependencies
 - ▷ a Properties
 ▷ a ⊕ wwwroot

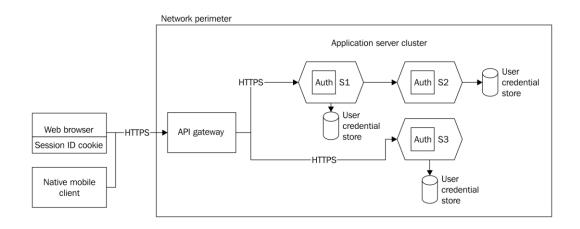
 - ▲ a Gontrollers
 - ♦ + C# HomeController.cs
 - 🔺 🖬 🚄 Models
 - ♦ + C# ErrorViewModel.cs
 - 🔺 🖬 🚄 Views
 - 👂 a 📕 Home
 - 👂 a 💼 Shared
 - * 🖻 _ViewImports.cshtml
 - + 🗟 _ViewStart.cshtml
 - ↓ + appsettings,json
 ↓ + bower,json

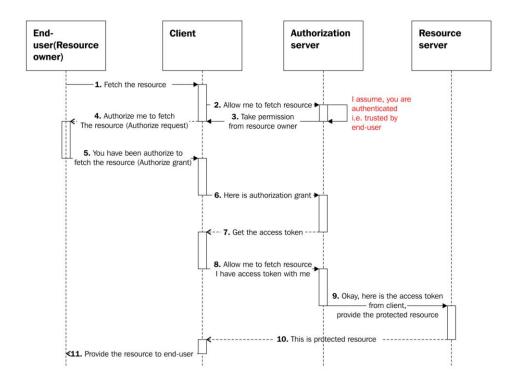
 - + 🗊 bundleconfig.json
 - 🕨 + 🗋 Dockerfile
 - * c* Program.cs
 - ♦ + C# Startup.cs

🖬 🕢 S	olution 'FlixOne.BookStore.ProductService' (2 projects)
۵ 🛓	docker-compose
4 🦉	FlixOne.BookStore.ProductService
	∠⇒ Connected Services
Þ	Dependencies
Þ	🔑 Properties
⊳	www.root
⊳	Contexts
	Controllers
	C* HomeController.cs
	C* ProductController.cs
⊳	Migrations
	🛁 Models
	C# Category.cs
	C# ErrorViewModel.cs
	C# Product.cs
	▷ C# ProductViewModel.cs
	Persistence
	C# IProductRepository.cs
	C# ProductRepository.cs
Þ	Views
Þ	🗸 appsettings.json
⊳	🗸 bower.json
	🗸 bundleconfig.json
Þ	Dockerfile
Þ	C# Program.cs
Þ	C# Startup.cs

Chapter 6: Securing Microservices





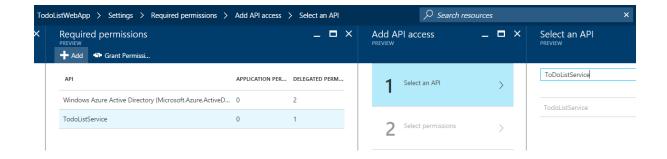


	Tenant Name (Default Director Azure Active Directory - PREVIEW		Create _ 🗖 🗙
+	Q Search (Ctrl+/)	+ Add 🗄 Endpoints	
<u>9</u>	Search (Ctrl+/)	To view and manage your registrations for converged applications, please visit the Microsoft Application Console.	* Name ❶ ToDoListService ✓
•	Overview	Search by name or AppId All apps	Application Type 🛛
2	🥳 Quick start	DISPLAY NAME APPLICATION TYPE APPLICATION ID	Web app / API
@	MANAGE	No results.	* Sign-on URL https://localhost:44321γ ✓
Ŷ	۹ ^۹ Users and groups	HO REGULES.	
•	Enterprise applications		
0	App registrations		
	Azure AD Connect		

	_	
TodoListService* 😐 🗙		
Application		
Build	Servers	
Web*	Apply server setti	ngs to all users (store in project file)
Package/Publish Web	UC Furners	
Package/Publish SQL	IIS Express	~
Silverlight Applications	Project Url	https://localhost:44321/
Build Events	Override applica	ation root <u>U</u> RL
Resources	https://leastheast	440047
Settings	https://localhost:	44521/
Reference Paths		
Signing		
Code Analysis		

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	✓ All apps ✓	Display Name TodoListService	Application ID		GENERAL		Object Id •
•	ON TYPE APPLICATION ID	Application Type Web app / API	Object ID		⁴ 1 ⁴ Properties	>	
8	/ API	Home Page https://localhost:44321	Managed Application In Local Directory TodoListService		a Reply URLs	>	Application ID
٥	/ API			All settings 🗲	Swners	>	* App ID URI 🛛
					API ACCESS		https://mytenant.onmicrosoft.com/TodoLi 🗸
					Required permissions	>	Logo
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Ŷ							
•							Upload new logo
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M							Web app / API
							Multi-tenanted Yes No
2							

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(*)	Application ID		* Name ● TodoListWebApp
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8	All settings →	🗳 Owners 📏	
2		API ACCESS	* App ID URI https://mytenant.onmicrosoft.com/TodoList\
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 Required permissions 	>					
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Application name Home	About Conta	ict Profile To Do List		Hello,	@hotmail.com!	Sign out
ASP.NET is a free JavaScript. Learn more »		work for building gre	eat Web sites and ¹	Web applications using	HTML, CSS and	

Getting started

ASP.NET MVC gives you a powerful, patterns-based way to build dynamic websites that enables a clean separation of concerns and gives you full control over markup for enjoyable, agile development.

Learn more »

Get more libraries

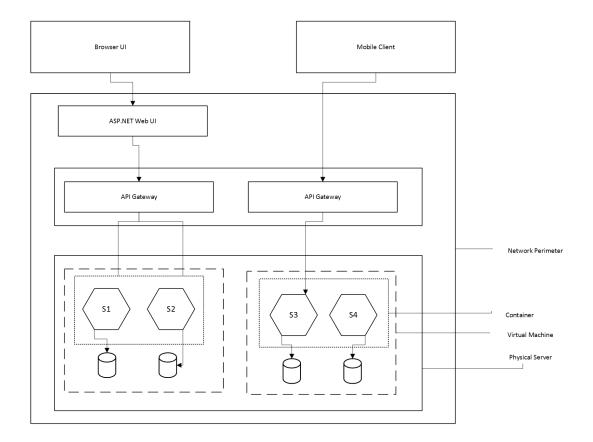
NuGet is a free Visual Studio extension that makes it easy to add, remove, and update libraries and tools in Visual Studio projects.

Learn more »

Web Hosting

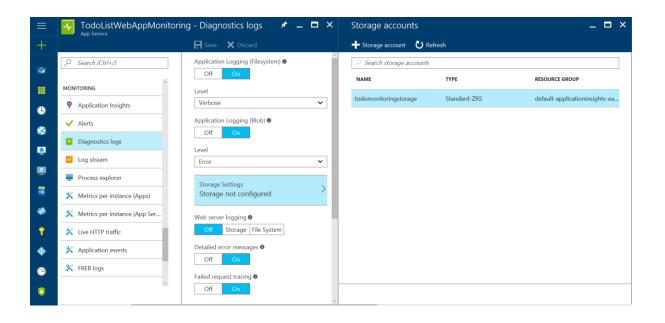
You can easily find a web hosting company that offers the right mix of features and price for your applications.

Learn more »

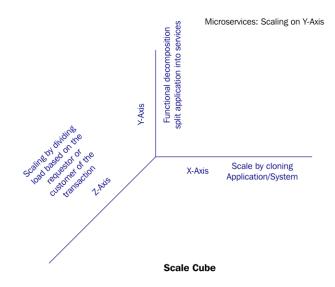


Micr	OSOFT Azure App Services > TodoList	WebAppMonitoring - Diagnostics logs
	TodoListWebAppMonitori	ng - Diagnostics logs 🛛 🖈 💶 🗙
+		🛱 Save 🗙 Discard
	Search (Ctrl+/)	Application Logging (Filesystem) Off On
	ΑΡΙ	Level
ß	API definition	Verbose 🗸
8	😲 CORS	Application Logging (Blob) Off On
Q	MONITORING	Level
	Application Insights	Error
SQL	✓ Alerts	Storage Settings
	Diagnostics logs	Storage not configured
• •	₩ Log stream	Web server logging Off Storage File System
	Process explorer	Detailed error messages 0
•	X Metrics per instance (Apps)	Off On
<u>ک</u>	X Metrics per Instance (App Ser	Failed request tracing Off On

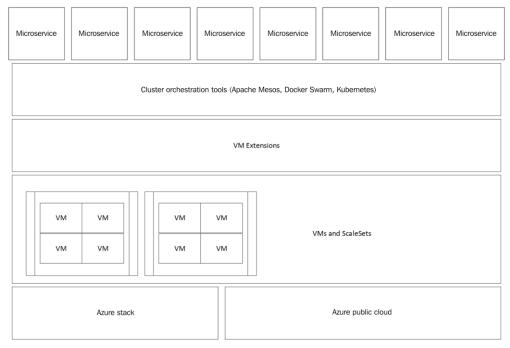
Chapter 7: Monitoring Microservices



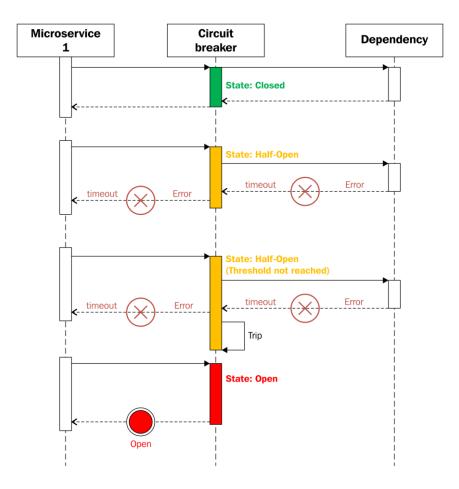
Chapter 8: Scaling Microservices



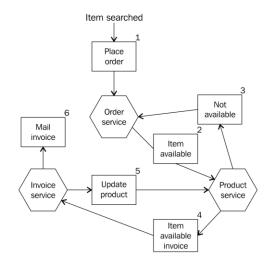
Ref: "The Art of Scalability: Scalable Web Architecture, Processes, and Organizations for the Modern Enterprise", Second Edition Martin L. Abbott; Michael T. Fisher



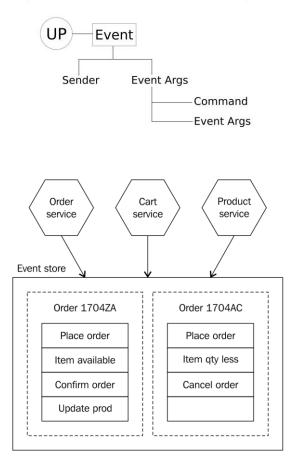
Microservices infrastructure



Chapter 9: Introduction to Reactive Microservices



Event	Function
Login	Auth/Login
UpdateProduct	Product/Update



UpdateProduct += {BaseURL}/Product/Update

			<	Order service	
	Order		Order	🚽 🗸 Deta	ils
ID	ID Status Client ID		Order ID	Item ID	Qty
1704AC	Cancel	#	1704ZA	HP_lap_24	2
1704ZA	Placed	#	1704AC		

New Project		-			? ×
▶ Recent		.NET Fr	amework 4.7 Sort by: Default		Search (Ctrl+E)
▲ Installed		5	Console App (.NET Core)	Visual C#	Type: Visual C#
 Visual C# Windows Classic Desktop Web .NET Core .NET Standard 			Class Library (.NET Core)	Project templates for creating ASP.NET Core applications for Windows, Linux and macOS using .NET Core or .NET	
		匠	Unit Test Project (.NET Core)		Framework.
Cloud	1	٣	xUnit Test Project (.NET Core)	Visual C#	
WCF V Other Languages		€	ASP.NET Core Web Application	Visual C#	
 Other Project Typ Dependency Valid 	es				
▷ Online					
Not finding what y	ou are looking for?				
Open Visual S	tudio Installer				
<u>N</u> ame:	FlixOne.BookStore.P	roductSer	vice		
Location:	D:\GitHub\microsen	vices\Sou	rce Code\02\Chapter-09	•	Browse
Solution name:	FlixOne.BookStore.P	roductSer	vice		Create directory for solution
					Create new <u>G</u> it repository
					OK Cancel

ET Core	~ <mark>A</mark>	SP.NET Core 2.0) × <u>Learn n</u>	tService	
Empty	Web API	Web Application	Web Application (Model-View- Controller)	Angular	A project template for creating an ASP.NET Core application with example ASP.NET Core MVC Views a Controllers. This template can also be used for RESTfu HTTP services. Learn more
*	B				
React.js	React.js and Redux				
					Authentication No Authentication
<u>Enable D</u>	ocker Support				
OS: V	Vindows		v		
Require	s Docker for Win	ndows			
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Application	Configuration: Active (Debug)	V Platform: Active (Any CPU)	~	Ţ
Build Events Build Events Package Debug Signing TypeScript Build Resources	Allow unsafe code Optimize code Optimize code Errors and warnings Warning level: Suppress warnings: Treat warnings as errors O None O All	Advanced Build Settings General Language version: Internal compiler error reporting: Check for arithmetic overflow/r Output Debugging information:	C# 7.1 C C# 7.1 C C# Jatest major version (default) C# latest major version (default)	^
	Specific warnings: Output Output path: XML documentation file: Register for COM interop	Library base address:	C#7.1	
	Generate serialization assembly: ge Manager Console C# Interactive Call H	Auto V	Advanced	*

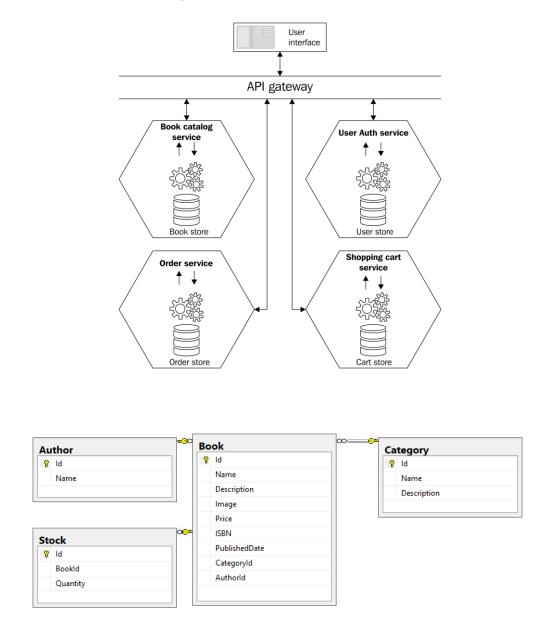
	· ·
NuGet Package Manager: FlixOne.BookStore.ProductServic	:e
Package source: nuget.org •	Φ
v4.00-preview00001	
Version: Latest prerelease 4.0.0-preview00001 - Install	
: v3.1.1 ♥ Options	
Description	
Reactive Extensions (Rx) for .NET - v3 compatibility facade for System.Reactive.Core	
Version: 4.0.0-preview00001	
Author(s): .NET Foundation and Contributors	
License: http://go.microsoft.com/fwlink/?LinklD=261272	
Date published: Saturday, May 27, 2017 (5/27/2017)	
Project URL: http://go.microsoft.com/fwlink/?Linkld=261273	
Report Abuse: https://www.nuget.org/packages/ System.Reactive.Core/4.0.0-preview00001/ReportAbuse	
rty packages. Tags:	
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	v4.0.0-preview00001 Image: System.Reactive.Core v4.0.0-preview00001 Image: System.Reactive.Core version: Latest prerelease 4.0.0-preview00001 Image: Image: System.Reactive.Core version: Latest prerelease 4.0.0-preview00001 Image: System.Reactive.Core version: Version: Latest prerelease 4.0.0-preview00001 Description Reactive.Extensions (Rv) for .NET - v3 compatibility facade for System.Reactive.Core Version: 4.0.0-preview00001 Author(s): .NET Foundation and Contributors License: http://go.microsoft.com/winkl/Linkld=261272 Date published: Saturday, May 27, 2017 (S/27/2017) Project URI: http://go.microsoft.com/winkl/Linkld=261273 Report Abuse: http://www.nuget.org/packages/ System.Reactive.Core/4.0.0-preview00001/ReportAbuse Tags:

Add New Item - FlixOne.BookStore.ProductService						
 Installed 	Sort by: Default	Search (Ctrl+E)		ρ.		
▲ ASP.NET_Core Code General ▷ Web	Class €€ Interface	ASP.NET Core Type: ASP.NET Core Web API Controller Class				
▷ Online	Assembly Information File	ASP.NET Core				
	MVC Controller Class	ASP.NET Core				
	Web API Controller Class	ASP.NET Core				
	Razor Page	ASP.NET Core				
	MVC View Page	ASP.NET Core				
	ASP.NET Configuration File	ASP.NET Core				
	Resources File	ASP.NET Core				
	Text File	ASP.NET Core				
	HTML Page	ASP.NET Core				
	JavaScript File	ASP.NET Core 💌				
Name: ProductController.	<mark>CS</mark>	Add	Can	cel		

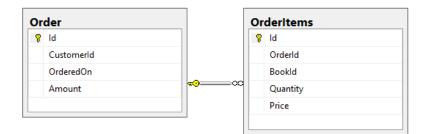
Solution 'FlixOne.BookStore.ProductService' (1 project)
▲ √⊕ FlixOne.BookStore.ProductService
Cap Connected Services
Dependencies
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▷ 🖬 🕀 www.root
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V C* ProductContext.cs
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C# IProductRepository.cs
V C# ProductRepository.cs
Views
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- C# Program.cs
- C# Startup.cs

Chapter 10: Creating a Complete Microservice Solution



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	Bookld				
	Quantity				
	Price				



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P	ld				
	FirstName				
	LastName				
	Userld				
	Password				
	Emailld				