Understanding the Programming Models of Azure Service Fabric

GETTING STARTED

Ivan Gavryliuk
SOFTWARE ARCHITECT

@aloneguid http://isolineltd.com

Overview

Getting Started

Installing Service Fabric

Creating Service Fabric Services

Exploring Actor Model Support

Managing State

Getting Ready for Deployment

Intended Audiences

Options for Building Microservices in Azure

Available Options

Azure Container Service

Azure Service Fabric

Azure Functions

Docker containers

- https://app.pluralsight.com/library/courses/docker-getting-started

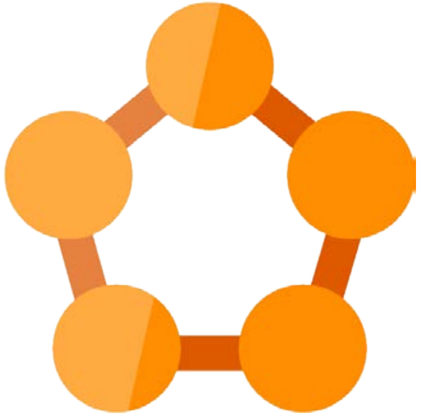
Faster, lighter virtual machines

Runs Docker containers in Azure

Container orchestrator

- Docker Swarm
- DC/OS
- Kubernetes

Supports all of them



All about microservices

Containers solve only infrastructure problems

Solves:

- Service communication
- Service discovery
- Telemetry
- Provision and upgrade
- Testing locally
- Manage downtimes
- Scaling in and out

They are micro-micro-services

React to an external change

- Blob created
- Message arrived on a queue
- … many other options

Can be called as a REST service

Run on a schedule

Step too far but good for

- Daily automation
- Prototyping
- Integration

Focus on
business objectives.

Proven Technology

Programming Models

Reliable services

stateless

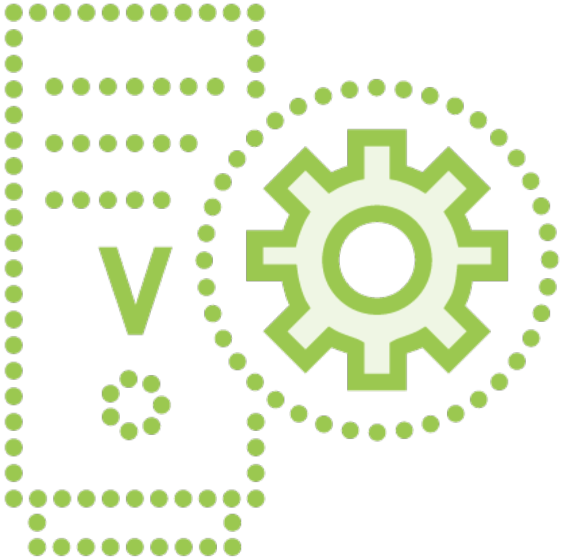
stateful

Reliable actors

Guest executables

Demo Application

Web API



Has no state

Must scale

Stateless service

Application proxies and gateway

Easier and cheaper to scale

Microservice

Independent part of business logic

- Product catalog
- Checkout service

Microservice

User service

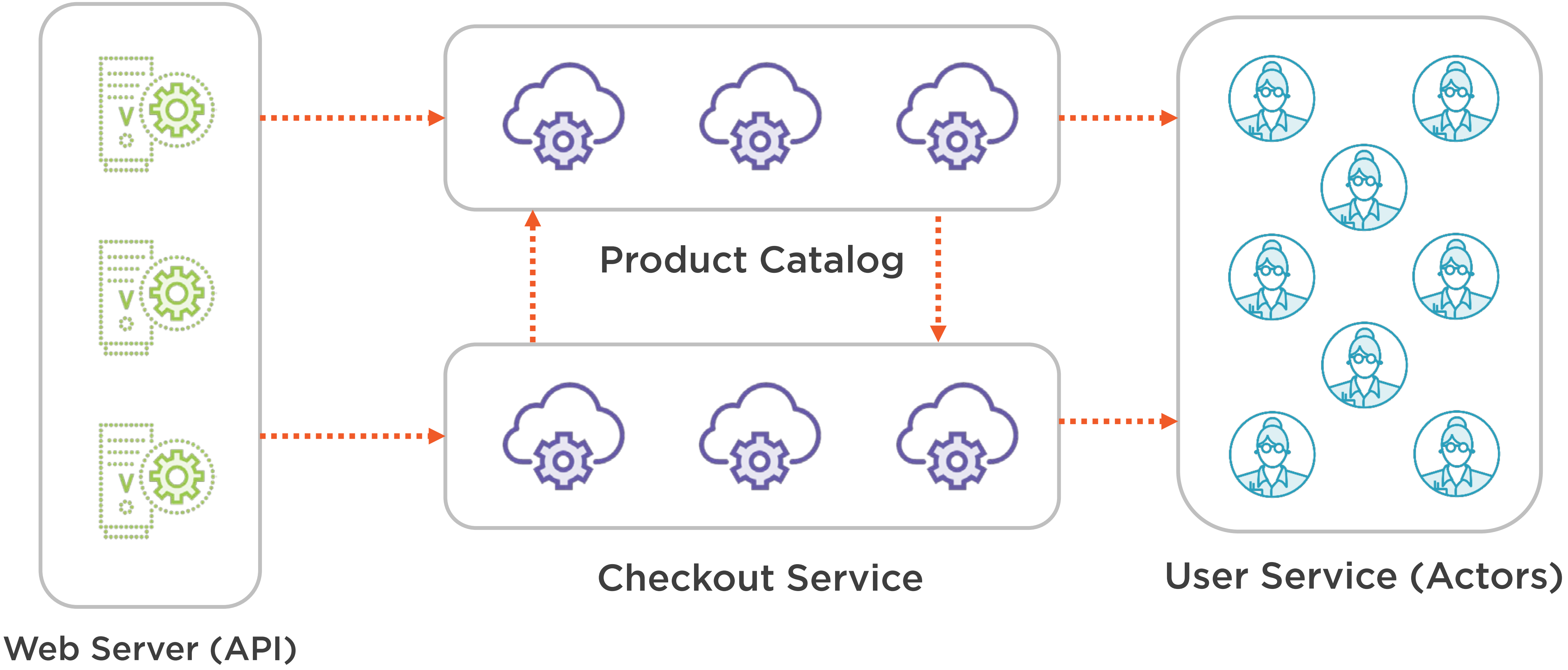
User can be a microservice too

Isolated entity

- Profile info
- Shopping cart

Perfect fit for Actor model

Demo Application



Product Catalog

Checkout Service

User Service (Actors)

Web Server (API)

Summary

Available options

- Azure Container Service
- Azure Service Fabric
- Azure Functions

Focus on business objectives

Service fabric programming models

Demo application architecture