



Azure Spring Starters

<Name>
<Title>



Agenda

Introduction

Spring apps development

Azure Spring starter overview

What it does and the benefits it provides

Next steps

How you can get started with Azure Spring starters



What is **Spring**?

The best Java application development framework

Productive

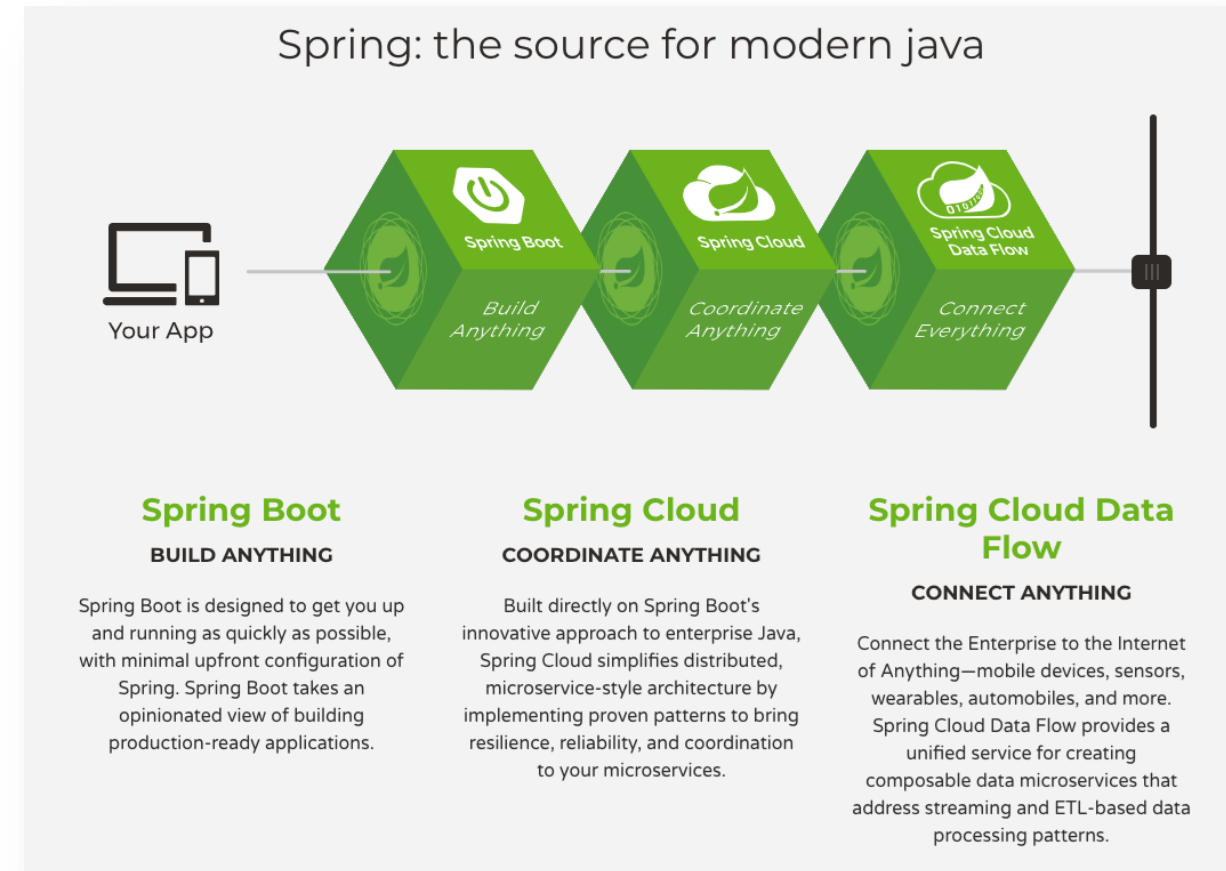
Accomplish practically any Java development task
Simple, fully comprehensive and modular
Deployable / testable / portable
Clear and well documented with great online guides

Popular

More than 50% of Java developers use Spring Boot (JVM Mag)
There's over 3m visits to Spring Initializr every year
Permissive Open Source License (Apache 2.0)
Vibrant, passionate & committed community

Trusted

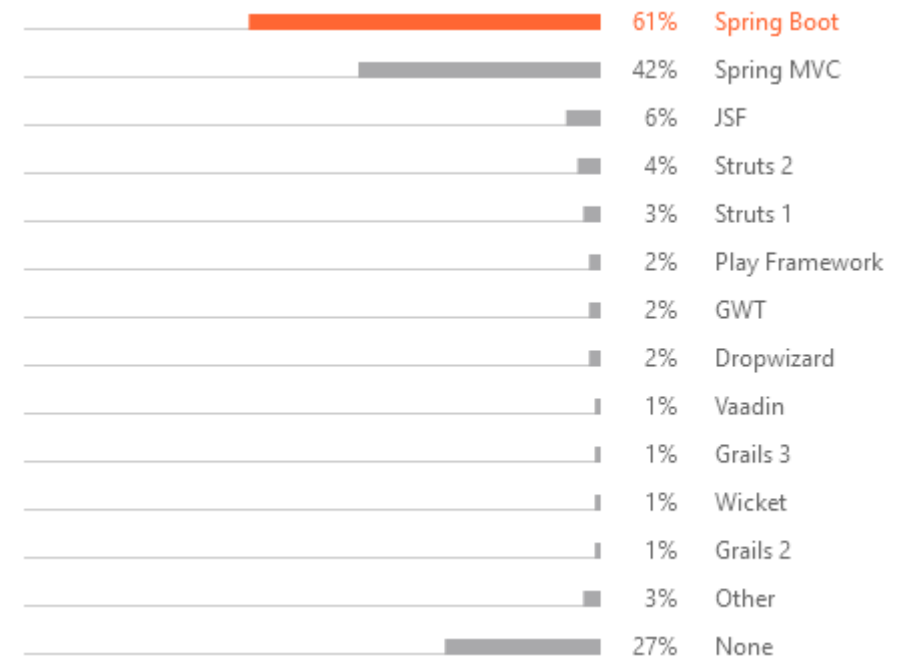
World's #1 IoC / Dependency Injection Framework
Proven in production since 2004
enterprise distribution & commercial support available



Spring

61%

Spring Boot has the largest share of Java among application development frameworks



Nov 2018

52.5 Million+ downloads
per month

Nov 2019

95 Million+ downloads
per month

Spring Boot has become the most popular Java web framework, adding 14% since last year.

<https://www.jetbrains.com/lp/devecosystem-2020/java/>

Spring-based development



Spring Boot

Build anything

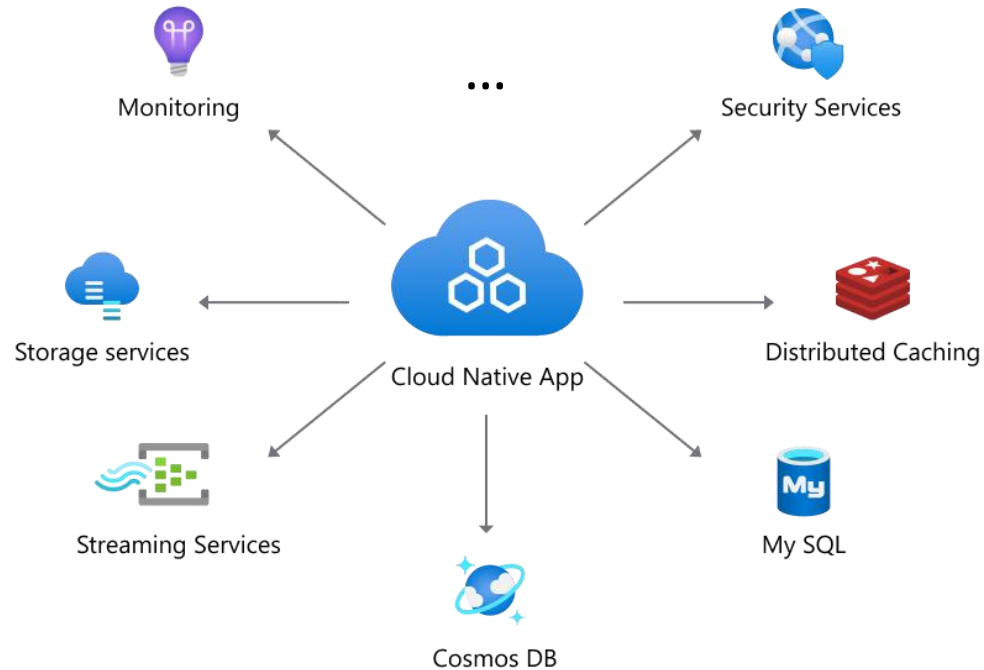
designed to get you up and running as quickly as possible, with minimal upfront configuration of Spring

Spring Cloud

Coordinate anything









provides a set of tools that makes communication between microservices easier

Seamlessly Integrate w/ Cloud Services



- Spring starters for Azure simplifies connection and consumption of Azure services under the Spring framework.
- Developers can adopt a **Spring-idiomatic** way to take advantage of managed services on Azure, with only few lines of configuration and minimal code changes.
- Close collaboration between Microsoft and VMware Spring engineers.

Azure Spring Starters

 Spring Cloud	 Spring Data	 Spring Security	 Spring Resource
App Configuration Event Hubs Service Bus Storage Redis Functions	SQL Database MySQL PostgreSQL Maria DB Cosmos DB <ul style="list-style-type: none">• SQL• MongoDB• Cassandra• Gremlin	Active Directory (AAD) AAD B2C Key Vault	Storage
 R2DBC		 Spring Cache	 Spring Messaging
SQL Database MySQL PostgreSQL		Redis Cache	Service Bus
			 Micrometer
			Monitor (includes Log Analytics)

Cosmos DB with SDK

```
public class Passenger {  
    private String id;  
    private String name;  
}  
  
client.createDatabaseIfNotExists("MyDatabase")  
    .flatMap(response -> client.getDatabase("MyDatabase"))  
    .createContainerIfNotExists("Passenger", "/id"))  
    .flatMap(response -> Mono.just(client.getDatabase("MyDatabase").getContainer("Passenger")))  
    .subscribe();  
  
container.createItem(new Passenger("1", "Carla Davis"))  
    .flatMap(response -> {  
        System.out.println("Created item: " + response.getItem());  
        return container.readItem(response.getItem().getId(),  
            new PartitionKey(response.getItem().getId()),  
            Passenger.class);  
    })  
    .block();
```


Cosmos DB with Spring Data Cosmos

```
@Container(containerName = "Passenger", ru = "400")
public class Passenger {
    @PartitionKey
    private String id;
    private String name;
}

@Repository
public interface PassengerRepository extends ReactiveCosmosRepository<Passenger, String> {
}

// to save an item
passengerRepository.save(new Passenger("1", "Carla Davis")).block();
```

How to use Azure Spring starters – Step 1

Azure Cosmos DB example

1. Bootstrap your project with Spring Initializr and Azure Support



Project
☒ Maven Project ☐ Gradle Project

Language
☒ Java ☐ Kotlin ☐ Groovy

Spring Boot
☐ 2.4.0 (SNAPSHOT) ☐ 2.4.0 (M3) ☐ 2.3.5 (SNAPSHOT) ☒ 2.3.4
☐ 2.2.11 (SNAPSHOT) ☐ 2.2.10 ☐ 2.1.18 (SNAPSHOT) ☐ 2.1.17

Project Metadata

Group

Artifact

Name

Description

Package name

Packaging ☒ Jar ☐ War

Java ☐ 14 ☒ 11 ☐ 8

Dependencies

ADD DEPENDENCIES... CTRL + B

Azure Support **MICROSOFT AZURE**

Auto-configuration for Azure Services (Service Bus, Storage, Active Directory, Cosmos DB, Key Vault, and more).

1.1 add azure-spring-data-cosmos in your POM.XML

```
<dependency>  
  <groupId>com.azure</groupId>  
  <artifactId>azure-spring-data-cosmos</artifactId>  
</dependency>
```

How to use Azure Spring starters - Step 2

Azure Cosmos DB example

2. Configure properties in application properties

Specify the DNS URI of your Azure Cosmos DB.

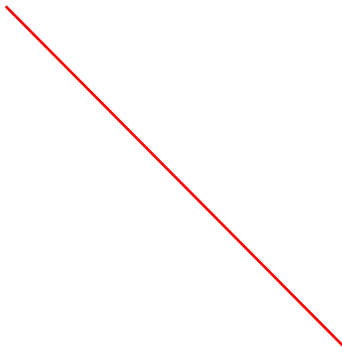
azure.cosmosdb.uri=https://candyshop.documents.azure.com:443/

Specify the access key for your database.

azure.cosmosdb.key=57686f6120447564652c20426f6220526f636b73==

Specify the name of your database.

azure.cosmosdb.database=candyshop



Don't want to put keys in your application properties file? You don't have to.

How to use Azure Spring starters - Step 3

Azure Cosmos DB example

3. Use native Spring abstractions to interact with Azure services

```
@Repository
public interface CandyRepository extends ReactiveCosmosRepository<Candy, String> {

    :

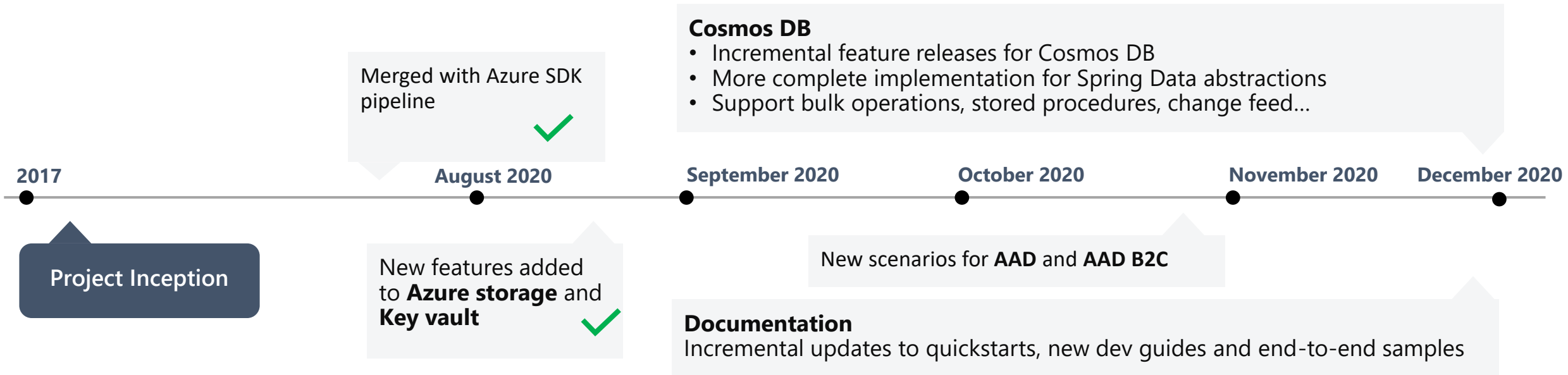
@Autowired
private CandyRepository candyRepository;

@GetMapping(produces = APPLICATION_JSON_VALUE)
public Flux<Candy> list() {
    return candyRepository.findAll();
}

@GetMapping(value = "{id}", produces = APPLICATION_JSON_VALUE)
public Mono<Candy> get(@PathVariable String id) {
    return candyRepository.findById(id);
}

@PostMapping
public void post(@RequestBody Candy candy) {
    candyRepository.save(candy);
}
```


Spring Azure Ecosystem Roadmap



[Listen to your feedback: https://aka.ms/SpringSurvey](https://aka.ms/SpringSurvey)

Demo

Store and query data from Azure Cosmos DB using reactive APIs

Get started with Spring on Azure

Try the complete Azure AD B2C example

<https://docs.microsoft.com/en-us/azure/developer/java/spring-framework/configure-spring-boot-starter-java-app-with-azure-active-directory-b2c-oidc>

Try Azure Spring starters to interact with Azure services

<https://docs.microsoft.com/en-us/azure/developer/java/spring-framework/>

Give us your feedback

<https://aka.ms/SpringSurvey>

Thank you