QUARKUS INSIGHTS

Episode #115

What’s new in Infinispan

23/01/2023

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Infinispan (Red Hat)

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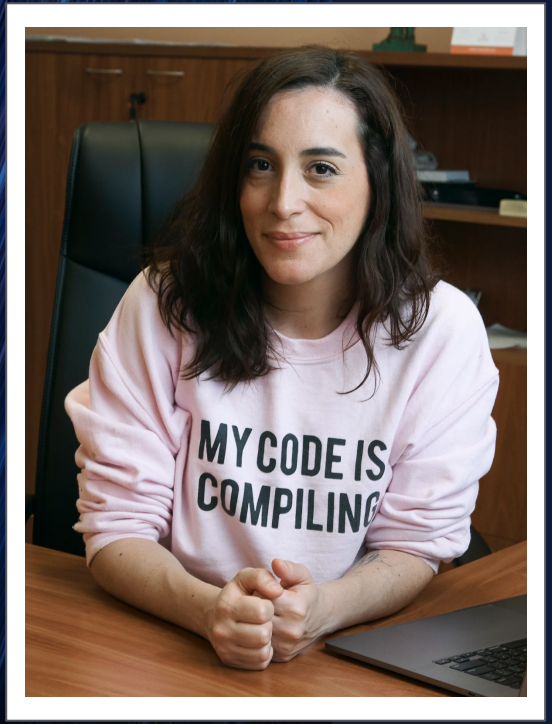
Infinispan (Red Hat)



Katia Aresti

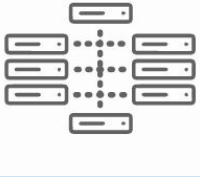
- Principal Software Engineer
- Core member of Infinispan
- Quarkus Contributor since 1.0
- Red Hatter since March 2017
- Devoxx France CFP since 2015
- Java Champion
- Linkedin Learning instructor

Fabio Massimo Ercoli

- Senior Software Engineer
- Infinispan Core Member
- Former Hibernate Team (4 years)
- Former Middleware Consultant
- Red Hatter since March 2016
- Working on NoSQL since 2012
- Leading indexing, query, data transcoding, metrics and tracing aspects at Infinispan

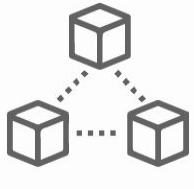
Infinispan

100% Open-Source, In-Memory Distributed Data (caches)



Interoperability

Resilient
Fault Tolerant Data

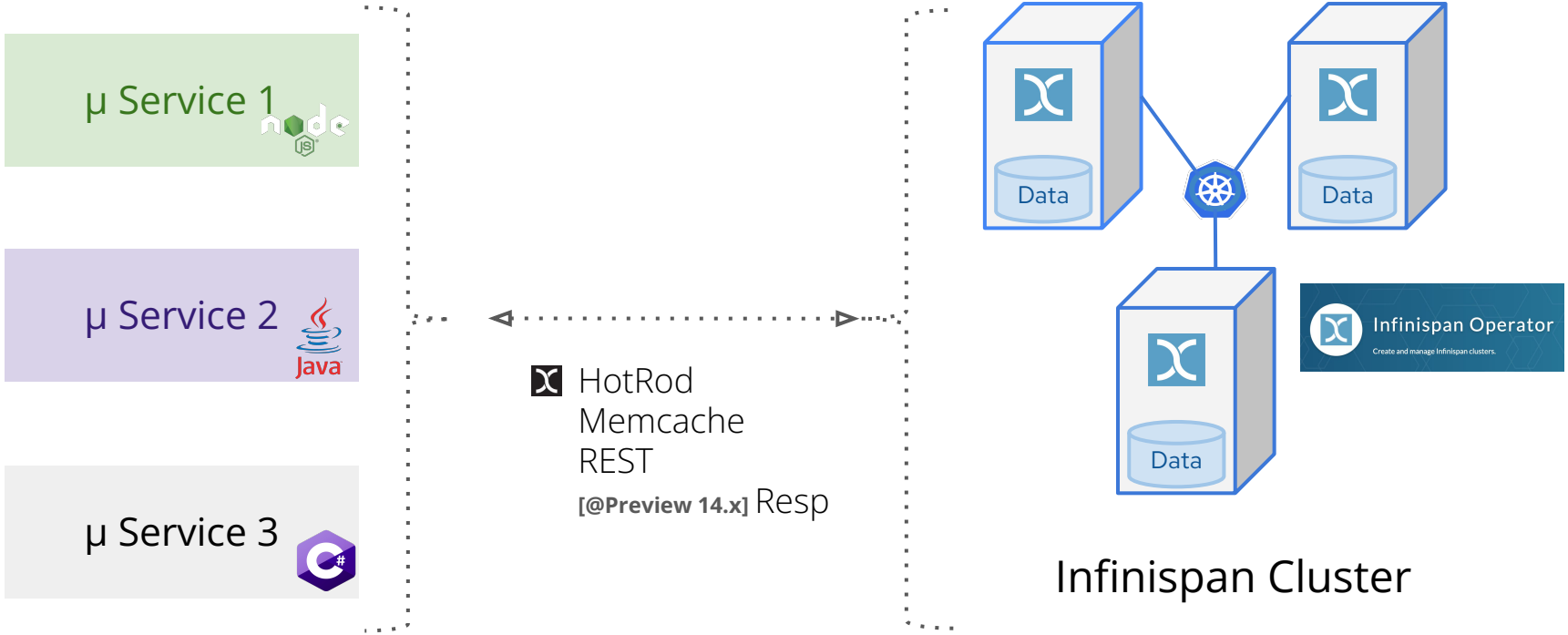


ACID Tx

Clustered Processing

Query

Infinispan Client-Server



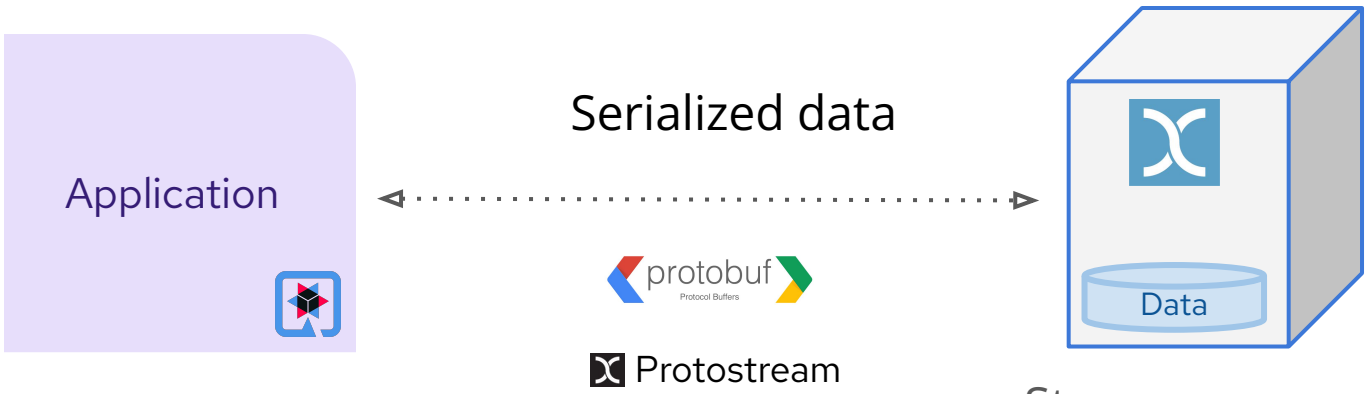
Since Quarkus 1.x Infinispan Client Extension

- Integration with Infinispan Server from version 1.0
  - Infinispan Embedded community project
- Counters Integration
- Protostream marshalling integration

```
@Inject
@Remote("authors")
RemoteCache<String, Author> authors;

@Inject
CounterManager counterManager;
```

Java Entities, Marshalling and Indexing



Contains
- Java Entities
- Protostream Marshaller

Stores
- Protobuf Schemas
- Protobuf data
- Indexes for search

Protostream and Indexing until Infinispan 13.x

Book.java

```
@ProtoDoc("@Indexed")
public class Book {

@ProtoFactory
public Book(String title…) {

@ProtoField(number = 1)
@ProtoDoc("@Field(index=Index.YES,
analyze = Analyze.YES, store =
Store.YES)")
public String getTitle() {
  return title;
}
```

Protostream and Indexing until Infinispan 13.x

Book.java

```
@ProtoDoc("@Indexed")
public class Book {

@ProtoFactory
public Book(String title…) {

@ProtoField(number = 1)
@ProtoDoc("@Field(index=Index.YES,
analyze = Analyze.YES, store =
Store.YES)")
public String getTitle() {
  return title;
}
```

book.proto

```
package com.redhat;

/**
* @Indexed
*/
message book {

 /**
 * @Keyword(projectable = true)
 */
 optional string title = 1;
```

Quarkus **2.5.x** and Infinispan

- **Infinispan 14.x**
- 0 configuration start mode with Dev Services
- Creating caches on startup
  - Default minimal configuration for caches
- Near caching configuration
- Microprofile Health integration
- New Indexing Annotations
- Caching annotations
- Kubernetes Service Binding
- OpenTelemetry integration

HIBERNATE SEARCH 6

```
@Indexed
public class Book {

@ProtoFactory
public Book(String title…) {

@ProtoField(number = 1)
@Keyword(sortable = true)
public String getTitle() {
  return title;
}
```

DEMO

Quarkus and Infinispan

- Named Configuration Support

```
@Inject
@InfinispanClientName("lon")
RemoteCacheManager lonSite;

@Inject
@InfinispanClientName("nyc")
RemoteCacheManager nycSite;
```

- [@Preview] Infinispan new Reactive API Integration

```
@Inject
MutinyCache<String, Author> authors;
```

Thank You!!!

Q & A

Infinispan website (documentation, blog)

Quarkus and Infinispan Client extension

Quarkus and Infinispan Insights Demo

Real time data on the open hybrid cloud with Quarkus and Infinispan

Live demonstration: Building cloud-native applications with AI/ML

Create and manage Red Hat Data Grid services in the hybrid cloud