

Red Hat  
**Summit**

# Connect Mastering Cloud Architectures

Exploring What's Possible with OpenShift and  
Application Services

**Daniel Brintzinger**

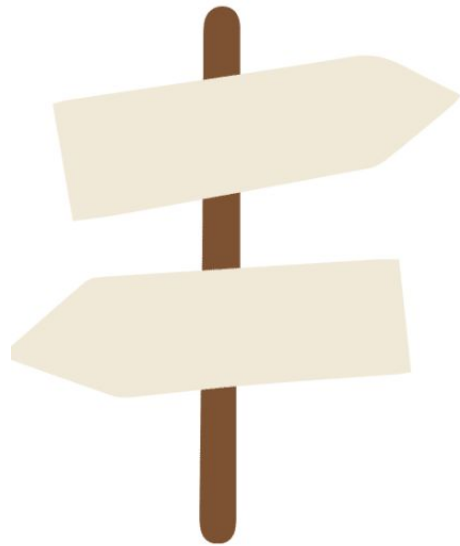
Principal Solution Architect

**Karsten Gresch**

Principal Solution Architect

# Cloud Native Architectures Workshop:

choose your own adventure



- **A Multi module** workshop - each module highlights a particular use case, development principle or technology to build Cloud Native apps.
- A **common overarching story**, based on a fictitious retail company (Globex).
- Modules are **independent** of each other
  - Each module has introduction and instructions sections.
  - **Introduction**: details the business problem we are trying to solve, possible solutions, a technical overview of the proposed solution and other background information.
  - **Instructions** provide details step-by-step details to guide you through the workshop.
- Modules are **provisioned on demand** by users.

Choose your adventure!

Discover the art of the possible with **Red Hat® OpenShift® application platform technologies**

# Your challenges addressed

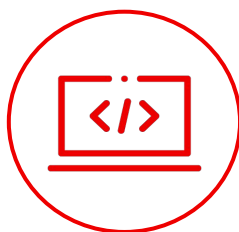
Through real-world use cases addressing your application platform needs



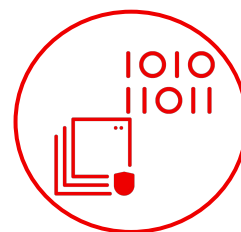
Enable distributed, cloud application architectures



Accelerate move to cloud for existing and new applications

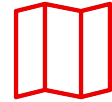


Develop Cloud Native apps



Integrate and transform application data

# Learn different ways to **accelerate innovation**



## **Value of OpenShift application platform**

Learn how OpenShift application platform technologies is the ideal platform to build cloud native applications for a variety of use cases



## **Accelerate innovation**

Accelerate rolling out new use cases, increase developer productivity resulting in faster innovation and shorter time to market



## **Technical best practices**

Learn essential techniques and best practices around app connectivity, APIs, streaming, event-driven architectures and more to enable AI initiatives



## **Increase adoption, address empty cluster problem**

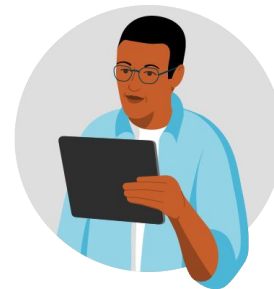
Guide developers to host all kinds of workloads with OpenShift Application Platform, increase OpenShift adoption and reduce the empty cluster problem

# Discover the the Art of the Possible with our fantastic portfolio



## As a Developer

- ▶ Develop custom cloud native applications based on real-world use cases
- ▶ Essential techniques and best practices around app connectivity, APIs, streaming and other cloud native technologies to enable AI initiatives



## As an Architect

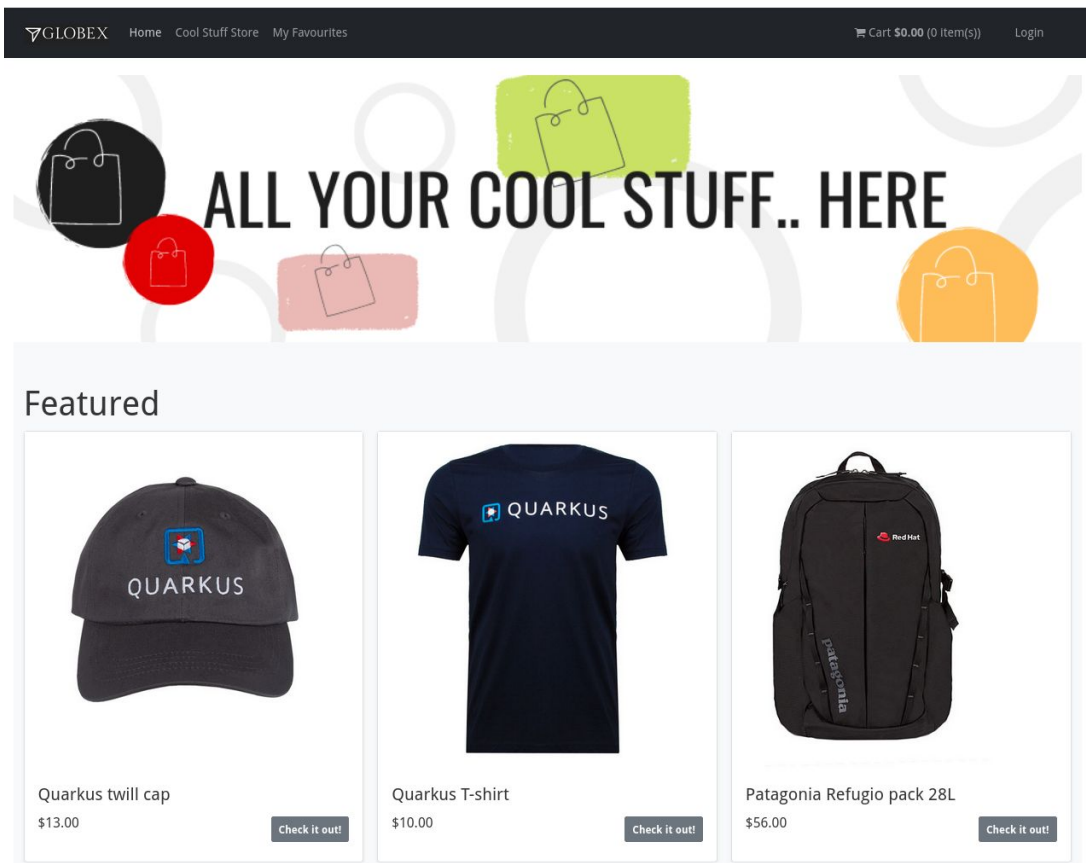
- ▶ Accelerate rolling out new use cases, increase developer productivity resulting in faster innovation and shorter time to market



## As a Platform Engineer

- ▶ Gain deeper understanding how to host all kinds of workloads with OpenShift Application Platform
- ▶ Guide developers to adopt Red Hat OpenShift® application platform technologies to reduce the empty cluster problem

# It all begins with Globex...



- Globex is a fictitious retail company
- On a digital transformation and cloud adoption journey to modernize its IT landscape.
- The application was containerized and re-hosted on OpenShift

Next step is to accelerate launching new use cases

# What you will learn today: An overview of the workshop modules



Introduction to Cloud Native Architectures workshop (with Event Streaming)

Track user activity to identify most preferred products and showcase as featured products

#amq-streams #quarkus #nodejs #kafka



Launch new channels using Contract-First approach

Open up new channels of business with a Mobile App and allow catalogue access by Partners

#apimgmt #keycloak #3scale #quarkus #apicurio #serviceregistry



Build new functionality with Change Data Capture

Introduce a loyalty Cashback Wallet without changing existing code

#debezium #quarkus #kafka #camelK



Build a multi-channel support service for Globex customers

Digital customers support service with multiple fully integrated communication channels

#camelK #amqbroker #kafka #infinispan #odf



Build a service network to connect disparate services

Access remote db service from eCommerce website through a secure tunnel

#skupper #serviceinterconnectivity #appconnectivity



Event driven intelligent applications with Serverless Knative Eventing

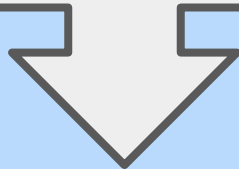
Moderate and Analyse customer product reviews to boost business intelligence using AI/ML

#quarkus #kafka #aiml #eventing #knative #serverless

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**Launch Firefox Chrome and go to**  
**<https://summit.demo.redhat.com>**











Red Hat Summit | Red Hat Demo Platform

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Germany

Tuesday, November 19, 2024

|  |  |   |
|--|--|---|
| <br>Nov 19, 11:00 AM<br>Building Edge Applications: A Retail Odyssey with Red Hat OpenShift AI/ML and Application Services<br><a href="#">Access this lab →</a> | <br>Nov 19, 11:00 AM<br>OpenShift AI Unleashed: Transforming Document Processing for Maximum Efficiency!<br><a href="#">Access this lab →</a> | <br>Nov 19, 11:00 AM<br>Cloud Architectures workshop: the art of the possible with OpenShift and Application Services<br><a href="#">Access this lab →</a> |
| <br>Nov 19, 11:00 AM<br>From Development to Deployment: Securing The Software Supply Chain with Red Hat OpenShift<br><a href="#">Access this lab →</a>        | <br>Nov 19, 11:00 AM<br>Advanced Features of Ansible Automation Controller<br><a href="#">Access this lab →</a>                             | <br>Nov 19, 11:00 AM<br>The Definitive RHEL 9 Hands-On Lab v9.1<br><a href="#">Access this lab →</a>   |



Red Hat  
Demo Platform

## OpenShift and App Services - Cloud Architectures Workshop

Access to OpenShift and App Services - Cloud Architectures Workshop

Email \* ?  
jaya@redhat.com

Workshop Password \* ?  
.....

Access this workshop →

The email you registered with

cloud

**Make sure you remember the (unique) e-mail address you used!  
It will allow you to come back to your lab if you lose connection.**

Access the Workshop Deployer through the URL displayed in the next page;  
Make a note of the Username and Password which will be used to login to the Workshop Deployer

# Cloud Architectures Workshop

*Discover the art of the possible.*

## Contents

Get started

The Cloud Architectures Workshop showcases the art of the possible with Red Hat OpenShift and Red Hat Application Services.

This workshop consists of a number different modules, each highlighting a particular use case, development principle or technology. The modules have a common overarching story, revolving around the e-commerce site of a fictitious retail company called Globex. Globex has undergone significant modernization and they are keen to build on their application modernization efforts to rapidly build new functionalities.

The workshop helps you navigate through each of these functionalities through a number of modules focusing on one particular use case. The modules are independent from each other and can be taken in any combination or order. Each module consists of an **introduction** and an **instructions** section:

- The **introduction** details the business problem we are trying to solve, possible solutions, a technical overview of the proposed solution and other background information.
- The **instructions** provide details step-by-step details to guide you through the workshop.

## Get started

Modules are provisioned on demand by you by using the **Workshop Deployer**.

Your access details to the lab:

- Access **Workshop Deployer** by [clicking here](#)
- Username: **user1**
- Password: **openshift**

Before diving into a particular module, we recommend that you go through the workshop introduction module, to explore the technical and functional environment for this workshop. **Go ahead! Choose your adventure!**

Click on "Log in with OpenShift"



Log in with OpenShift

Secured with [OpenShift oauth-proxy](#)

Login using the username and password you noted down in the landing page; This will be something like user<x>/openshift

## Log in to your account

Username \*

Password \*



Log in



Welcome to Red Hat OpenShift

Click "Allow selected permissions" to progress

## Authorize Access

Service account workshop-deployer in project workshop-deployer is requesting permission to access your account (user1)

### Requested permissions

- user:info**  
Read-only access to your user information (including username, identities, and group membership)
- user:check-access**  
Read-only access to view your privileges (for example, "can I create builds?")

You will be redirected to <https://workshop-deployer.apps.cluster-wrsbw.wrsbw.sandbox1821.opentlc.com/oauth/callback>

Allow selected permissions

Deny

This is your Workshop Deployer. The Introduction module is already deployed.  
We recommend you to start with the Introduction module to understand the concepts behind this workshop.

## Red Hat Cloud Native Architecture Workshop: Deploy your adventure

^ Hide Details

This workshop consists of a number different modules, each highlighting a particular use case, development principle or technology. The modules have a common overarching story, revolving around the e-commerce site of a fictitious retail company (Globex). Globex has undergone significant modernization and they are keen to build on their application modernization efforts to rapidly build new functionalities.

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Modules are provisioned on demand by you. You choose your adventure! Click on the **Deploy** button to setup a particular module. It will take a few minutes for the module to be fully deployed. You can read through the Introductions while you wait for the module to be fully deployed. The module turns green when it is ready for use.

Here are your user access details to access this workshop. **Username:** user1 | **Password:** openshift | **OpenShift console:** <https://console-openshift-console.apps.cluster-ks5fc.ks5fc.sandbox1482.opentlc.com>

Logout

View deployed modules (1)

OR

Filter By Tags:

#AMQ-Streams

#Kafka

#Quarkus

#API-Management

#Keycloak

#OIDC

#Apicurio

#Service-Registry

#3scale

#DevSpaces

#CDC

#Debezium

#Camel-K

### Introduction to Cloud Architectures workshop

[#introduction](#) [#overview](#)

This chapter explains the technical and functional environment for this workshop, with a walkthrough of the existing implementation. This module is deployed by default for you. Click on the Intro link to learn more about this workshop.

[#AMQ-Streams](#) [#Kafka](#) [#Quarkus](#)

[Intro](#)

Deployed: true | Sync Status: Synced | Health: Healthy

### Launch new channels using Contract-First approach

[#hands-on](#)

In this module you discover how Contract First Approach provides the right framework to accelerate launching new channels in a secure way.

[#API-Management](#) [#Keycloak](#) [#OIDC](#) [#Apicurio](#) [#Service-Registry](#) [#3scale](#)  
[#DevSpaces](#)

[Intro](#)

[Instructions](#)

Deploy

Deployed: false

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In this module you discover how you can leverage Change Data Capture to build out new functionality with minimal impact on existing applications.

[#CDC](#) [#Kafka](#) [#Debezium](#) [#Camel-K](#) [#DevSpaces](#)

[Intro](#)

[Instructions](#)

Deploy

Deployed: false

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[#hands-on](#)

In this module you will use Apache Camel to implement a pluggable multichannel support service, integrating several instant messaging solutions.

[#Camel-K](#) [#AMQ-Broker](#) [#AMQ-Streams](#) [#Kafka](#) [#Infinispan](#)  
[#OpenShift Data Foundation](#) [#DevSpaces](#)

[Intro](#)

[Instructions](#)

Deploy

Deployed: false

### Build a service network to connect disparate services

[#hands-on](#)

In this module you discover how to build a service network to connect disparate services using a secured layer 7 service network.

[#Skupper](#) [#Service Interconnect](#) [#Application Connectivity](#)

[Intro](#)

[Instructions](#)

Deploy

Deployed: false

### Event driven applications with Serverless Knative Eventing

[#hands-on](#)

In this module you learn how to leverage Knative Eventing to build an event driven application, without having to deal with the underlying messaging infrastructure.

[#Knative Eventing](#) [#AMQ-Streams](#) [#Kafka](#) [#Event Driven Applications](#)

[Intro](#)

[Instructions](#)

Deploy

Deployed: false

Click on "Deploy" to launch a specific modules.

View deployed modules (1)

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#AMQ-Streams

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#Quarkus

#API-Management

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[Intro](#) [Instructions](#)

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#Knative Eventing #AMQ-Streams #Kafka #Event Driven Applications

[Intro](#) [Instructions](#)

[+ Deploy](#)

Deployed: false



The module turns amber; modules can take 30-90 seconds to deploy.  
Access the Intro guide while the module is being deployed to learn about the context behind the module

View deployed modules (2)

OR

**Filter By Tags:**

- #AMQ-Streams
- #Kafka
- #Quarkus
- #API-Management
- #Keycloak
- #OIDC
- #Apicurio
- #Service-Registry
- #3scale
- #DevSpaces
- #CDC
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- #AMQ-Broker

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[Intro](#)

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[Intro](#) [Instructions](#) [Undeploy](#)

Deployed: true | Sync Status: | Health:

The module turns green once it is ready to use; Access the Instructions guide for a detailed step-by-step guide for the module

View deployed modules (2)

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#Kafka

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[Intro](#)

[Instructions](#)

[- Undeploy](#)

Deployed: true | Sync Status: Synced | Health: Healthy

The Instructions guide provides a detailed step-by-step guide with a number of screenshots for the module. Once you are done with the module, **CHOOSE YOUR NEXT ADVENTURE** module from the Workshop Deployer.

# Event driven applications with Serverless Knative Eventing – Instructions

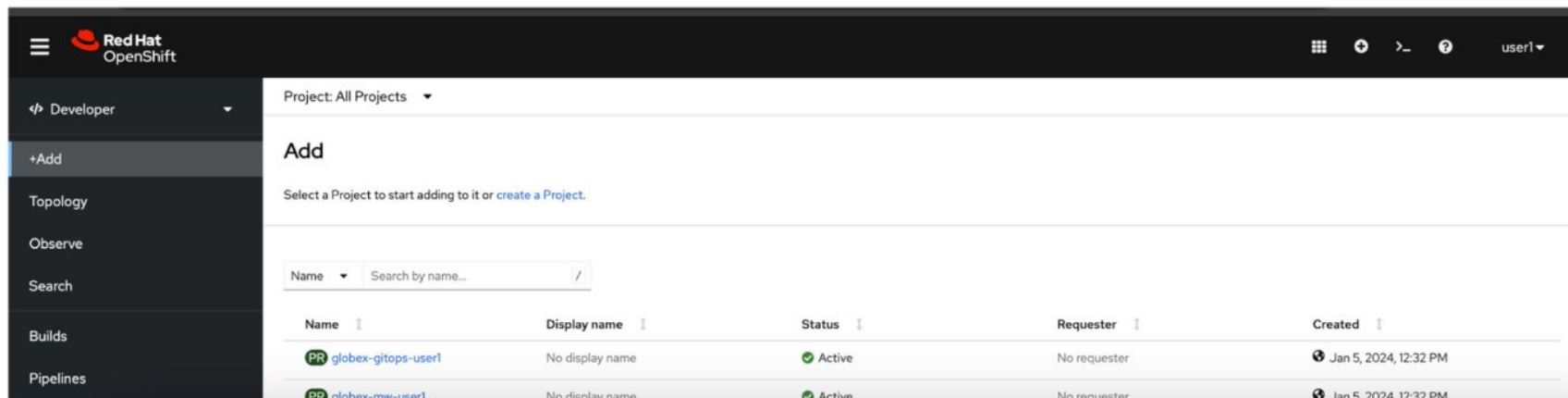
## 1. Overview of activities

Here is an outline of the activities you will achieve as part of this module.

- Gain understanding of what has been already setup for you
- Deploy the Quarkus Knative Services needed for the solution
- Build an event mesh with OpenShift Serverless Eventing components
- Try out the solution end-to-end to see how data flows through the various systems and services

## 2. Deployment overview and introduction

- In a browser window, navigate to the [OpenShift console](#). If needed, login with your username and password (**user1/openshift**). If this is the first time you open the console, you will be directed to the Developer Perspective of the console, which shows you the different namespaces you have access to.



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1. Overview of activities
2. Deployment overview and introduction
  - 2.1. Red Hat AMQ Streams setup overview
  - 2.2. Introducing OpenShift Serverless for event-driven architecture
3. Deploy Knative Services
4. Connect Knative Services to Kafka using Knative Eventing
  - 4.1. Create Sink and SinkBinding
  - 4.2. Create Knative Broker and Triggers
5. Test the Review Moderation and Sentiment Analysis
  - 5.1. Under the hood: Step through Review moderation flow
  - 5.2. Under the hood: Review sentiment analysis
6. Congratulations

# Access the code

# Cloud Native Architectures

Github repo



**rh-cloud-architecture-workshop**

github.com

Session: 12:40 - 13:10



# Jetzt Session bewerten!

Einfach QR-Code  
scannen, Session  
wählen und bewerten.  
**Vielen Dank!**

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Thank you



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