

# Articles



See also

See also [Camel User Stories](#).

If you have never used or seen Camel before, then you should start with [Apache Camel Tutorial – Introduction to EIP, Routes, Components, Testing, and other Concepts](#) - an article by Kai Wähner, where he puts EIP and Camel into the big picture and gives a run down of the important Camel concepts. [Demo source code](#) can be downloaded at github to get started with your first Camel project easily.

## Camel Videos

- [Camel Riders in the Cloud](#) - A 30 minute video from March 2018 where Claus presents using Camel with microservices and containers as cloud native applications, and the best practices around this.
- [Agile Integration with Apache Camel microservices in containers on Kubernetes](#) - A 45 minute video from fall 2017 where Claus presents at CodeEurope in Poland.
- [Containerised Integration with Apache Camel](#) - A 70 minute video from August 2017 where Claus Ibsen present how developers can get started with Kubernetes/OpenShift on a local cluster and build and run Camel microservices in the cluster.
- [Apache Camel - The Integration Library](#) - A 50 minute video from September 2016 where Claus Ibsen presents Apache Camel at the JDKIO 2016 conference.
- [Apache Camel First Steps](#) - A 10 minute video from December 2015 where Vivian van Zyl gives a high level overview of Apache Camel and demonstrates how to start using Camel with live code demo.
- [Fabric8 Camel Microservices for Docker and Kubernetes](#) - A 55 minute video from [Riga Dev Day](#) 2016 conference where Claus Ibsen talks about developing Camel microservices ready for the container platforms.
- [Developing Microservices with Apache Camel](#) - Video from November 2015 at the MSA Day in New York where Claus Ibsen talks developing Camel based microservices for docker containers running on Kubernetes. [Slides are here](#).
- [Wild Flies and A Camel](#) - Video from Oredev 2015 where Markus Eisele talks about Apache Camel and JBoss Wildfly.
- [JavaOne 2015 Riding a Camel through the JEEHara](#) - Video from JavaOne 2015 where Markus Eisele introduces Apache Camel and how to use it with JEE.
- [Apache Camel in the clouds](#) - Video from Devnexus 2015 where Markus Eisele talk about Apache Camel in the clouds running on openshift
- [GeeCON 2015: Markus Eisele - Wild Flies and a Camel - Java EE Integration](#) - Video from GeeCon 2015 where Markus Eisele talks about Apache Camel and how Camel can work with Wildfly
- [Hvordan få en kamel til å danse \(September 2014\)](#) by Per Jørgen Walstrøm & Audun Fauchald Strand - (JavaZone 2014) in Norwegian
- [Integration using Apache Camel and Groovy \(June 2014\)](#) by Claus Ibsen, presenting Camel, Groovy, and [hawtio](#) at [gr8conf](#) 2014.
- [Effective System Integrations with Apache Camel \(March 2014\)](#) by Jakub Korab
- [Getting started with Apache Camel video from BarcelonaJUG \(January 2014\)](#) by Claus Ibsen
- [Camel in the cloud demo from CamelOne 2013](#) - Video presentation from CamelOne 2013 demonstrating Camel in the cloud using [Fuse Fabric](#) and [hawtio](#)
- [Getting started with Apache Camel](#) - Video presentation from Javagruppen meeting by [Claus Ibsen](#) (May 2013)
- [Apache Camel Essential Components](#) by [Christian Posta](#) (January 2013)
- [Leverage Enterprise Integration Patterns with Apache Camel and Twitter](#) by [Bruno Borges](#) (JavaOne 2012)
- [Riding the Apache Camel into the cloud](#) [James Strachan](#) (QCon 2012)
- [Migrating akka-camel module to Akka 2.x](#) by [Peter Gabryanczy](#) (ScalaDays 2012)
- [Confident Data Transfers with Apache Camel Security](#) by [Dominik Schadow](#) (JavaOne 2012)
- [CamelOne 2012 Videos](#) - All the videos from the [CamelOne 2012 conference](#) (May 2012)
- [JavaOne 2012 - Leverage Enterprise Integration Patterns with Apache Camel and Twitter](#) by [Bruno Borges](#) (JavaOne 2012)
- [Using Apache Camel and Java EE in an OSGi World](#) by [Jeff Genender](#) and [Johan Edstrom](#) (JavaOne 2011)
- [Er Apache Camel riktig valg for deg? Lytt til erfarne Camel spotters](#) by [Rune Peter Bjørnstad](#), and [Bjørn Nordlund](#) (September 2011)
- [In the brain of James Strachan, riding the Camel](#) - by [James Strachan](#) (August 2011)
- [CamelOne 2011 Video presentations](#) [CamelOne 2011 conference](#) (May 2011)
- [What Riding the Camel can make integration easier for you](#) by [Claus Ibsen](#) (September 2011)
- [Paris JUG 2011 - Integration with Apache Camel and ESB](#) by [Charles Moulliard](#)
- [JEEConf 2011 - What riding the Camel can do to make integration easier for you](#) by [Claus Ibsen](#) (May 2011).
- [Belgium JUG 2011 - Integration with Apache ServiceMix and Camel](#) by [Charles Moulliard](#)
- [Devoxx 2011 - Introduction to Apache ActiveMQ, ServiceMix, Camel and CXF](#) by [Charles Moulliard](#) and [Gert Vanthienen](#)
- [Claus Ibsen's Devoxx 2010 talk](#) is all about Apache Camel
- [Introduction to messaging with ActiveMQ at Øredev 2008 conference](#) by [Bruce Snyder](#)
- [James Strachan's Devoxx 2009 talk](#) is mostly about Camel and ActiveMQ
- [ScreenCast: an introduction to Apache Camel and the use of Enterprise Integration Patterns in Medium Resolution or High Resolution](#) by [James Strachan](#)
- [Taking Camel for a ride](#) by [Bruce Snyder](#)
- [JavaZone Conference - Taking Apache Camel for a Rider](#) - Video presentation by [Bruce Snyder](#) (September 2008)
- [Videos de las charlas de la 9a reunión de JavaMexico \(Spanish\)](#) by [Domingo Suarez](#)
- [Screencast/Demo of Smooks and Apache Camel processing UN/EDIFACT](#) - by [Tom Fennelly](#)
- [Facebook integration Apache Camel](#) - 15 min screenshot showing how to integrate Camel with Facebook. This screenshot is part of a series, with new videos coming up.
- [Advanced AEM Search - Consuming External Content and Enriching Content with Apache Camel](#) - 45 min video from 2016 by Gaston Gonzales.
- [How to use Heroku and Apache Camel to create open source integrations with Salesforce](#) - 30 min video from 2017.
- [Camel microservices with Spring Boot and Kubernetes](#) - 55 min video from JPoint Moscow 2018, where Claus gave a presentation.
- [Camel microservices with Spring Boot and Kubernetes](#) - 45 min video from JEEConf Kiev 2018, where Claus gave a presentation.
- [Spring Tips - Apache Camel](#) - 1 hour video from May 2018 by [Josh Long](#) from Pivotal, whom take a look at using Apache Camel on Spring Boot.
- [A Look Back at Enterprise Integration Patterns and Their Use into Today's Serverless Cloud Computing](#) - 1h video from Devoxx Poland 2018 by [Bruno Borges](#) with lots of demos on **Apache Camel**, Azure Functions, and quick look into Kafka and Azure Event Hubs.
- [Camel microservices with Spring Boot and Kubernetes](#) - 60 min video from JavaZone (September 2018) where Claus gave a presentation. Source code and slides are [available here](#).

- [Camel microservices with Spring Boot and Kubernetes](#) - 50 min video from Voxxed Days Ticino (October 2018) where Claus gave a presentation. Source code and slides are [available here](#).

## Articles

Articles are divided into several sections. As the lists grow, further sectioning refinements may be necessary.

### General Articles

- [Open Source Integration with Apache Camel](#) by *Jonathan Anstey*
- [Integration with Apache Camel - Part I - Will get you over the hump](#), by detailing the inner workings of Apache Camel from the DSL to routes and exchanges. by *Charles Moulliard*
- [Simple DSL OSGi bundle example](#) by *Andrej Koelewijn*
- [Realization of EAI Patterns with Apache Camel](#) by *Pascal Kolb*
- [Navigating the Integration Landscape - Claus Ibsen on Apache Camel](#) Claus Ibsen was interviewed at DZone discussing the integration landscape
- [Enterprise Integration Pattern with Apache Camel 2.0](#) by *Julien Dechmann*
- [Camellos - Discovering Apache Camel](#) by *Gunnar Hillert*
- [First step with Apache Camel](#) by *Lukasz Budnik*
- [Devoxx talk about Apache Camel - Impressions from the talk](#) by *Jos Nieuwenhuis*
- [LEGO Java: Apache Camel Context and Route Basics](#) shows how to build integration applications using EIPs LEGO style. Building an application to parse HTML pages from web sites.
- [LEGO® Java \(II\): Apache Camel Error Handling, Java Beans and Web Services](#)
- [Getting started with Apache Camel using Groovy](#) by *Zemian Deng*
- [Introduction to Apache Camel](#) by *Alexander Holbreich*
- [What is Camel?](#) a short blog about what Camel is, leading up to slides from a recent Camel presentation in autumn 2012.
- [Getting started with Apache Camel](#) a short blog from December 2012 about how to implement an use-case from scratch with Apache Camel.
- [Discovering the power of Apache Camel](#) - A blog post from December 2012 by *Bernard Ligny*
- [Growing EAI with Apache Camel](#) - Good lengthy article from March 2013 covering simple integration needs that grows and shows how Camel can be up for the task. **Recommend read.**
- [Getting started with Apache Camel using Java](#) - A blog post from August 2013 introducing how to create a new Camel project from scratch and use Java code. And then make the example better with less code and using more of Camels power.
- [SOA Integration with Apache Camel](#) - Article from September 2013 introducing to Apache Camel and how it can be used with SOA and Web Services.
- [Tutorial: Integration with Apache Camel](#) by *Charles Moulliard* (September 2013)
- [Knowledge Tree integration](#) using Apache Camel
- [Introduction to the Open eHealth Integration Platform \(based on top of Apache Camel\)](#) Excellent DZone article by *Martin Krasser*
- [Camel vs. JBI](#) by *Adrian Trenaman*
- [Hiding The Middleware from Your Domain Code With Camel](#) by *James Carr*
- [Tutorial: Open Source Enterprise Application Integration DEBS'13](#) by *Christoph Emmersberger and Florian Springer*
- [Developing Services with Apache Camel](#) - 3 part blog series (sep/oct 2014) by *Matt Raible* - Excellent blog series where Matt covers how they migrated from an old legacy system to using Apache Camel and micro services. A great read!
- [Q&A With Claus Ibsen on Apache Camel](#) - Claus was interviewed by DZone in December 2015 where he talks Apache Camel, including development inspiration, community reaction, and challenges.
- [Performance Tuning Ideas for Apache Camel](#) - Bilgin details many ideas what you can do to optimize your systems that are using Apache Camel (January 2016).
- [Microservices with Apache Camel](#) - Piotr Mikowski blogs from March 2017 about developing microservices with Apache Camel and using the Rest-DSL with Spring Boot, service call, consul, zipkin and more.
- [Apache Camel: Integrating systems with Java](#) - Alexandre Eleuterio Santos Lourenco from June 2017 gives a quick introduction to Apache Camel and builds an example to route files to AWS S3 with error handling via gmail and running on Spring Boot.
- [Getting started with Apache Camel and Java](#) - By Bennet Schultz from September 2017 gives you a quick 101 how to easily get started with Apache Camel with plain Java (no Spring, application server, OSGi, etc.)
- [Easy integration between services with Apache Camel](#) - By Jan Martijn Roetman from August 2018 blogs about his experience with Apache Camel and explain a bit what I think Apache Camel is and why it is useful. I will also give some code examples.
- [Auto-generating news and publishing it to WordPress with Apache Camel](#) - By Ricardo Zanini from August 2018 blogs about how to generate news posts using NLG (Natural Language Generation) and post to WordPress via Apache Camel.
- [Streamline Software Integration: An Apache Camel Tutorial](#) - A longer article and tutorial on introducing Apache Camel and using Camel with microservices, testing, Kubernetes, and much more. The tutorial is based on the Camel 2.22 release.

These examples show usage of several different components and other concepts such as error handling.

- [Jammazwan](#) - A set of many small examples to learn parts of Apache Camel more quickly.
- [A bit more meat: Camel applied : JMS to File](#) by *Mike McLean*
- Matteo wrote a blog entry about [using Camel with iBatis](#)
- [Using the Camel aggregator correctly](#) by *Torsten Mielke*
- [Spring Remoting with JMS Example](#) on *Amin Abbaspour's Weblog*
- [Camel routes and HL7](#) by *Roger Searjeant*
- [Leverage EIP with Apache Camel and Twitter](#) by *Bruno Borges*
- [Using RSS with Apache Camel](#) by *Jeroen Reijn*
- [Axis 2 ride with Camel](#) how to use Axis 2 with Camel by *Sagara*
- [A Camel based XML payload HTTP polling provider](#) by *Christopher Hunt*
- [First steps with Apache Camel on Google App Engine](#) by *Martin Krasser*
- [Camel, CXF and JMS by Example](#) by *Silvester van der Bijl*
- [A simple file monitoring console with camel, cometd and jquery](#) by *Andrej Koelewijn*
- [Advanced Event Notification Framework with Apache Camel](#) by *Hendy*
- [Camel IRC Message Route Example](#) by *James Carr*
- [A composite REST service using Apache Camel](#) by *Andrej Koelewijn*
- [EDA events over system boundaries with Camel](#) by *Sculptur team blog*
- [Dynamic FTP Client using Apache Camel and Spring](#) by *Mattias Severson*

- Using Apache Camel to route SOAP calls through message queues *by Glen Mazza*
- Virtual ESB - application integration made painless with Apache Camel *by Piotr Jagielski*
- Application-Monitoring & Statistics-Collection with Apache Camel *by Martin Huber*
- Camel exception handling overview *by Ben O'Day*
- Remote Observer Pattern with Publish-Subscribe via XMPP *by Hendy*
- Implementing Asynchronous Observer Pattern with Bean Proxy *by Hendy*
- Apache Camel Example Application - Earthquake Mashups showing how Camel using EIPs can gather online earthquake and weather data and expose REST service.
- RouteBuilding with inherited configurations *by Martin Huber*
- Mathew's Thoughts on Apache Camel shows how Apache Camel easily can route messages from a JMS topic to files using the Content Based Router EIP. More blog posts to come.
- Transparent Asynchronous Remoting via JMS *by Harald Wellman*
- Dynamic Routing Using Health Information Policy with Apache Camel *by Edward Brown and Jamie Goodyear*
- Transforming and splitting huge EDI files using Smooks and Camel *by Claus Straube*
- JDBC Persistence for Camel Aggregator talks about how to use the Aggregator EIP with persistence support.
- TCP proxy with Apache Camel *by Scott Cranton*
- Process driven Froms with Apache Camel and websockets shows how to use web sockets with Camel with an Web UI example.
- Calling WebServices with Apache Camel *by Marcelo Jabali*
- Apache Camel and SOAP *by Jan Kronquist*
- Using Apache Camel to monitor SNMP devices *by Marcelo Jabali*
- Website mashup with Apache Camel *by Jean-Baptiste Onofré*
- Error handling in Camel for JMS consumer endpoint *by Torsten Mielke*
- Cloud integration with Apache Camel and Amazon web services s3 sqs and sns *by Kai Wähler*
- Visual IDE said to jump start Camel mediation routing - Article from TechTarget magazine about visual IDE for Camel development
- Using the MINA component in Apache Camel - Blog post *by Marcelo Jabali*
- Using HTTP-based endpoints with Apache Camel - Blog post *by Marcelo Jabali*
- Cloud Notifications with Apache Camel - Blog post *by Ioannis Cannellos*
- Hot Standby failover for Apache Camel *by Christian Schneider*
- Combine Yahoo Finance and HBase using Camel - Blog post Robert Felker writing about how to gather finance statistics from Yahoo using Camel with HBase and REST.
- Splitting big XML files with Camel - Part 1 - This blog post covers how to split big XML files in a streaming mode using new functionality introduced in Camel 2.9, and explains some of its inner details.
- Splitting big XML files with Camel - Part 2 - This covers splitting big XML files using the new `camel-stax` component, introduced in Camel 2.9.
- Correlating logs from redelivered messages - *by Claus Ibsen*
- Using Apache Camel to Manage Amazon EC2 Startup/Shutdown *by Jeff Davis*
- Easy Handmade SOAP-Webservice-Versioning With Apache Camel *by Martin Huber*
- Using twitter and web socket with Apache Camel *by Claus Ibsen*
- Gotcha when using Camel Servlet - A blog post with some advice when using the Camel Servlet component.
- Working with EMAIL attachments - *by Jason Sherman*
- Using Quartz, Camel and Spring for Distributed Service Orchestration - *by Nestor Urquiza*
- Camel and MongoDB: a match made in heaven - Introduction to the Camel MongoDB component launched with the Camel 2.10 release.
- EIP in Action - A blog post with 4 use-cases that demonstrates how to use EIPs in theory and Camel in practice.
- Monitoring and managing Apache Camel using JMX - A blot post giving an overview of the monitoring and management capabilities Camel offers out of the box with JMX, and how you can have your custom Camel components / processors / beans included as well.
- Olympics Image loader powered by Apache Camel - Bilgin shows how to write a little website displays twitter images related to the Olympics in real time.
- Camel and RabbitMQ - A blog post showing how to integrate Camel with RabbitMQ
- Monitoring Camel applications on the Cloud - *by Bilgin Ibryam*
- Some Camel Stuff - A blog post from February 2013 *by John Källström*
- Apache Camel for home monitoring - A good blog post from February 2013 how to use Camel to pickup files from a home monitoring system that post temperature changes and route them to MQTT broker, and store in a SQL Database.
- Designing and Implementing our Camel-based mgm Cosmo Router - First blog of a series of blogs on experience with using Apache Camel implementing a solution for integrating an insurance software with a CRM system. Recommended read.
- Lessons learned from using Apache Camel, MTOM and JMS - Blog post on experience using SOAP with MTOM (using Apache CXF) and JMS (using Apache ActiveMQ).
- Camel CXF Component - WSDL First Example - A simple WSDL first Camel CXF producer and consumer.
- Camel CXFRS Component - Simple REST - A simple CXFRS example exposing a REST interface to a database table.
- From inside the code: Camel RouteBuilder and Java DSL - A deep dive into the internals of Apache Camel to see how the Java DSL works
- From inside the code: Camel Routing Engine Part I - A deep dive into the internals of Apache Camel to see how Camel setup the routes
- Testing Camel JPA routes with Pax-Exam and Karaf - This blog is about how to use JPA, CXF and ActiveMQ with Camel in Karaf and how to do the testing best
- Testing with Apache Camel - Blog post from April 2014 by Gnanaguru summarizing his experience looking into unit testing with Camel and all the possible ways this can be done.
- Correctly using Camel's AdviceWith in Unit Tests from April 2014 by Dugg Turnbull talking about his experience how to write unit tests with the powerful advice with functionality in Camel.
- Parleys Rest SMS with Apache Camel from April 2014 Imran Raza Khan talking about how to send SMS text messages using REST api with Apache Camel.
- Camel HTTP file upload with multipart/form-data from August 2014 by Peter Hilton how to send files over legacy system using HTTP built using Scala and the Scala DSL.
- Spring Boot, Docker and Websockets Integration with Apache Camel from April 2015 by Andrew Block how to build a Camel web app using Spring Boot that listen for docker events in a HTML5 web app using web sockets in a micro style manner.
- Using basic authentication and Jetty realms to protect Apache Camel REST routes from June 2015 by Dan Moore writes how to use basic auth with the Rest DSL and Jetty as component.
- Using Camel, CDI inside Kubernetes with Fabric8 from June 2015 by Ioannis Cannellos who writes how to build Camel microservices with CDI and have services discovery and injection with CDI for Docker containers running on Kubernetes with [fabric8](#).
- Learn Apache Camel - Indexing Tweets in Real-Time from September 2016 by David Kiss, how to pull in tweets in real time and index those in elasticsearch and use a see the data in graphical dashboard.
- Calling Native Code with Camel from November 2016 by Josh Regan talking about how to call c, c++, c# code directly from Camel.



- [Take JPA to another level](#) from November 2016 by Flemming Harms talking about how to use JPA beans with Camel JPA in a more advanced way.
- [The Apache Camel version of a Spring Batch tutorial](#) from December 2016 by Abhilash Nair - A demo project that replicates a Spring Batch tutorial using Apache Camel within a Spring Boot app.
- [Faster File Consumption with Apache Camel](#) from January 2017 by Josh Reagan - Covers the strategies for consuming files faster in Apache Camel.
- [How to use Maven with Apache Camel](#) from February 2017 - Covers how quickly create, compile and run Camel applications.
- [How to test Apache Camel JMS routes with Spring and ActiveMQ step by step](#) from May 2017 by Marcin Zimecki - Covers how to unit test Camel with ActiveMQ JMS routes
- [Short Retry vs Long Retry in Apache Camel](#) from June 2017 by Bilgin Ibryam - Talks about difference between short and long retries with Camel and related concepts from integration patterns point of view.
- [PGP Encryption and Decryption with Apache Camel](#) from July 2017 by Jitendra Bafna article which explains how PGP works and shows how to use PGP in Camel routes for both encryption and decryption.
- [Creating Clustered Singleton Services on Kubernetes with Apache Camel](#) from October 2017 by Nicola Ferraro talks about how the Camel master component can be used for singleton routes in a cluster such as Kubernetes.
- [Monitoring Camel with Prometheus in OpenShift](#) from November 2017 by Bruno Meseguer talks about how to gather Camel metrics using Prometheus and display in Grafana.
- [Which Camel DSL to use and why](#) from December 2017 by Bilgin whom has compiled feedback from various Camel developers, consultants etc and discuss Java DSL vs XML DSL.
- [Deploying Apache Camel to Google Kubernetes Engine](#) from December 2017 by Evgeny Minkevich talks about how they run Apache Camel in containers on Google Cloud. The article has details how to manage, monitor and log your Camel applications.
- [Spring Boot, Apache Camel, and Swagger UI](#) from January 2018 by Bennet Schulz shows how you can quickly create a Camel application running on Spring Boot with Rest DSL and Swagger UI out of the box.
- [The Saga Pattern in Apache Camel](#) from April 2018 by Nicola Ferraro explains in an in-depth blog post all about the new Saga pattern that was added to Camel 2.21.
- [Creating a REST API in Apache Camel](#) from June 2018 by Tom Donohue explains the Rest DSL and how to use it with a basic example that is a great tutorial for learning about the Rest DSL.
- [Enterprise integration for Ethereum](#) from July 2018 by Bilgin Ibryam explains the Ethereum eco-system and where you can use Camel with the bit-coin and block-chain technologies.
- [Camel Aggregation Strategies](#) from August 2018 by Josh Reagan whom blogs about how to aggregate data using Camel's AggregationStrategy when using EIPs such as Content Enricher, Splitter or the Aggregator.

## Tooling / Combination with other Products

These examples show Camel combined with several tools (e.g. IDE), ESBs, Application Services, and other middleware products such as messaging or OSGi container.

- [Wanna try our Apache Camel developer tools for Enterprise Integration Patterns?](#) *by James Strachan*
- [Using NetBeans 7.0 to create a new Apache Camel project](#) shows how to start from scratch in NetBeans to setup a Apache Camel project (tutorial style with screenshots)
- [Using NetBeans 7.0 to create a new Apache Camel project without Spring dependency](#) shows how to start from scratch in NetBeans to setup a Apache Camel project (tutorial style with screenshots) without any Spring dependency
- [Integrating Apache Camel with JBoss ESB](#) *by Edgar Ankiewsky*
- [Combining Apache Camel+BSF to make JBoss ESB polyglot](#) *by Edgard Ankiewsky Silva*
- [Implementing Fuji integration scenario using Camel SE](#) *by Louis Polycarpou*
- [An IRC alerter written using Apache Camel and Java](#) how to easily integrate IRC with Camel to monitor and do alerts.
- [Things to consider when selecting between Apache Camel and Apache Servicemix](#) *by Ashwin Karpe*
- [A jira notification system for irc using Camel](#) *by Guillaume Nodet*
- [Camel + Smooks](#) from the official Smooks blog about Smooks integration Camel out of the box.
- [Getting Started with Apache Camel and prepare for Apache ServiceMix deployment](#) *by Magnus K Karlsson*
- [Smooks OSGi: Camel, UN/EDIFACT, ServiceMix](#) shows how to use Smooks with Camel running in the Apache ServiceMix OSGi container.
- [ServiceMix bridge to IBM WebSphereMQ](#) how to bridge ActiveMQ and IBM WebSphereMQ with Camel running inside Apache ServiceMix 4.x (OSGi based).
- [Camel integration with Oracle WebLogic JMS](#) *by Lowry Curry*
- [Camel integration with WebSphere MQ](#) *by Lowry Curry*
- [jBPM5/Drools Apache Camel integration](#) a blog entry talking about JBPM5/Drools integration with Apache Camel.
- [Use remote EJB in Camel routes](#) *by Jean-Baptiste Onofré*
- [Use Camel, CXF and Karaf to implement batches](#) *by Jean-Baptiste Onofré* explains how to control a Camel route from another route and a JAX-RS server using CXF, package into an OSGi bundle ready to run in Apache Karaf.
- [Karaf Tutorial Part 5 - Running Apache Camel integrations in OSGi](#) *by Christian Schneider*
- [Unit testing OSGi Blueprint with Apache Camel made easier](#) - Blog post how Camel Testing with OSGi blueprint became much much easier, than having to resort to use pax exam.
- [Communication between two remote Camel routes using Apache Karaf Cellar](#) *by Jean-Baptiste Onofré*
- [How to Start/Stop Camel Routes on an ActiveMQ Slave](#) - *by Jason Sherman*
- [Article about testing WMB](#) - This article shows a hands-on approach of how you can test your IBM WebSphere Message Broker solutions in a simple way using modern tools, such as Apache Camel.
- [Tools for building a real time analytics platform](#) - Article demonstrating using Apache Camel and Storm for real-time analytics.
- [camunda BPM + Apache Camel: Integrating two Open Source frameworks for a lightweight BPM+SOA infrastructure](#) - From the Camunda team blogging how to use their product together with Apache Camel using a camunda-bpm component.
- [Add Apache Camel and Spring as JBoss modules in WildFly](#) - How to reuse Camel JARs as JBoss Modules with WildFly
- [Running Camel on EAP](#) - by Christian Posta, how to run Apache Camel on JBoss EAP / Wildfly using JBoss Modules.
- [Bootstrapping Apache Camel in Java EE7 with WildFly 8](#) - by Markus Eisele, how to run Apache Camel on WildFly using CDI, as well information about other EE7 examples for Apache Camel.
- [Your Apache Camel applications now includes out of the box documentation](#) - by Claus Ibsen, blogs about new functionality in Camel 2.15 onwards that means all EIP and component documentation is out of the box at runtime.
- [Some great hawtio videos by Robin Huizer](#) - Three videos of demonstrating [hawtio](#) and Apache Camel in action.
- [Using Camel Routes In Java EE Components](#) - by Markus Eisele in June 2015 how to get started using Camel on Wildfly.
- [Sending JMS Messages From WildFly 8 To WebLogic 12 with Camel](#) - by Markus Eisele in June 2015 how to bridge JMS to/from WebLogic with Camel running on Wildfly.

- [Using JPA And CDI Beans With Camel on WildFly](#) - by Markus Eisele in June 2015 how to use JPA, CDI with Camel running on Wildfly.
- [A universal Streamer for Apache Ignite based on Apache Camel](#) - by Raúl Kripalani on the integration between Apache Ignite and Apache Camel.
- [Video of Apache Camel tooling to edit your routes in type safe manner](#) - A 10 minute video from December 2015 where Claus Ibsen demonstrates light-weight [Camel tooling](#) to edit Camel routes/endpoints in type safe manner from different IDEs.
- [Video of fabric8 Apache Camel Maven Plugin to validate your Camel source code](#) - A 12 minute video from January 2016 where Claus Ibsen demonstrates a new Maven plugin that allows to validate your Camel routes and endpoints from the source code, so you can catch any type errors and invalid configurations at code time, instead of having Camel fail at runtime.
- [Hello Apache Camel](#) - 15 small video tutorial's by Tobias Polley (June 2016) how to get started with Apache Camel (**in German**)
- [Routing Oracle AQ messages using Apache Camel in ServiceMix](#) - (February 2016) how to connect OracleAQ and Camel by Paco Saucedo
- [Routing Oracle AQ messages using Apache Camel in ServiceMix: the XA option](#) - (August 2016) how to connect OracleAQ and Camel with XA transactions by Paco Saucedo
- [Using Apache Camel with Azure Service Bus](#) - (November 2016) some notes how to use Camel with Microsoft Azure Service Bus with AMQP messaging by Frederik Jönsson
- [SAP HANA using Camel's Simple language in HCI](#) (November 2016) how to use Camel Simple language with SAP Cloud Integration.
- [Camel and Kura: Providing Telemetry Data as OPC UA](#) (November 2016) If you're using an industrial M2M protocol, consider the combined power of Camel and Kura to get your telemetry data squared away as OPC UA.
- [Camel split and aggregate with Jboss data grid for persistence](#) (December 2017) by Venu Surampudi for how to use JBoss Data Grid as persistent cache for Camel aggregator with recovery functionality.
- [Camel Spring Cloud Stream](#) (January 2017) by Donovan Muller whom introduces his Camel Spring Cloud Stream component with a live example running on OpenShift with Camel, Twitter and Spring Cloud Stream connected to RabbitMQ.
- [Camel CXFRS Contract First](#) (March 2018) by Josh Reagan whom blogs about how you can do OpenAPI contract-first development with CXF-RS and Apache Camel.
- [Integrating Amazon MQ with other AWS services via Apache Camel](#) (April 2018) blog post from Amazon compute blogs showing the steps how to run ActiveMQ and Camel on AWS and integrate with AWS services like S3 and others.
- [Ingesting Filebeat Data Into Your Apache Camel Flow](#) (June 2018) blog post showing how to use camel-lumberjack to ingest data from Filebeat into your Camel routes.
- [Using Jaeger to trace an Apache Camel application](#) (August 2018) blog post from Gary Brown showing how to use camel-opentracing and Jaeger to do distributed traces and visualize them in Jaeger UI.
- [Getting started with Flowable and Apache Camel](#) (February 2019) shows how to use the Flowable BPMS together with Apache Camel.

## Camel and Groovy

- [A Groovy ride on Camel](#) by Jack Hung (December 2009)
- [Using Groovy and Camel to pool Google Analyst email reports](#) by Mr. Haki (April 2009)
- [Using grails-camel plugin to work with Camel in Grails land](#) by Mr. Haki (April 2009)
- [Send mail with Apache Camel from Grails](#) by Mr. Haki (April 2009)
- [Groovy and Grape - easiest way to send gtalk message with Apache Camel](#) by Andrej Koelewijn (February 2009)

## Camel and Scala

- [Interview with Martin Krasser about camel-scalaz](#) from Jaxcenter. Scalaz-Camel: fully leveraging 'what Scala and Scalaz offers for functional programming.'
- [Apache Camel and Scala: A powerful Combination](#) by Kai Wähler
- [A little Scala DSL example](#) - A little blog post showing how to use the Camel Scala DSL leveraging Scala functions directly in the DSL.
- [Apache Camel's Scala DSL explored](#) - A blog post using Camel and Scala to build a powerful solution to decouple systems. Using HTTP, JSON and Scala case classes in a nice way.
- [Using Apache Camel with Scala and the Camel Scala DSL](#) - A tutorial from Feb 2013 on using Camel and Scala DSL with a number of examples using the [EIPs](#) and Camel [Components](#), and with source code.
- [Apache Camel with Scala testing styles](#) - A blog post on different approaches of camel testing with ScalaTest.
- [Apache Camel with Scala: Extending DSL](#) - A blog post extending the Camel Scala DSL

## Camel and Clojure

- [Using Apache Camel from Clojure](#) by Jason Whitlark (June 2010)

## Camel and the IoT (Internet of Things)

- [Make Your IoT Gateway WiFi-Aware Using Camel and Kura](#) - DZone article by Henryk Konsek (2015)
- [IoT gateway dream team - Eclipse Kura and Apache Camel](#) - slides from the Henryk Konsek talk for Eclipse IoT Virtual Meetup (2015)
- [IoT gateway dream team - Eclipse Kura and Apache Camel](#) - video from the Henryk Konsek talk for Eclipse IoT Virtual Meetup (2015)
- [The IoT in the service of the environment using Apache Camel & JBoss A-MQ](#) - blog post by Abdellatif Bouchama from June 2015 how Apache Camel doing IoT to help measure air quality in the streets of France
- [Where am I? Collecting GPS data with Apache Camel](#) DZone article by Henryk Konsek (2015)
- [Alarm system based on Raspberry PI 3, Groovy and Apache Camel](#) by Igor Suhorukov (2016)
- [Open Source IoT Gateway: A Tale Of Eclipse Kura, Apache Camel, And Rhiot](#) - video from the Henryk Konsek talk at DevNation 2016.
- [Getting started with Apache Camel and Internet of Things](#) - article from Joseph Butler from February 2017.

## Camel and Microservices/Cloud

- [A Camel running in the Clouds \(Part 2\)](#) by Luca Burgazzoli (April 2017)
- [A Camel running in the Clouds](#) by Luca Burgazzoli (December 2016)

## Comparison to Camel's Competitors

- [Apache Camel and other ESBs \(Camel vs Mule\)](#) - A question on Stackoverflow originally from 2010 but with a great showcase of what is the status 5 years later according to [Raul's answer](#), and [follow up comments from Claus](#).
- [Mule vs Spring Integration vs Apache Camel compared by Black Duck Open Hub](#) - by Clays Ibsen (December 2015) - How to use Open Hub to compare these projects side by side.
- [Apache Camel vs Spring Integration](#) - by Bjorn Beskow (October 2015) - Compares the new SI Java-8 DSL with the Camel Java DSL.
- [Light-weight, open-source integration: Apache Camel or Spring Integration?](#) by [Christian Posta](#) (September 2013)
- [Apache Camel vs Spring Integration](#) - (July 2013)
- [Spring Integration 2.2 is out, it is time for another comparison with Apache Camel](#) - by [Bilgin](#) (December 2012)
- [Spring Integration Project Creation VS. Apache Camel Project Creation](#) by [Claus Ibsen](#) (April 2012)
- [Spring Integration and Apache Camel](#) by [Biju Kunjummen](#) (December 2009)
- [Apache Camel alternatives](#) by [Gunnar Hillert](#) (October 2009)

## Presentations on Apache Camel

- [Implementing Enterprise Integration Patterns with Apache Camel](#) presentation by [Eduard Hildebrandt](#)
- [Dead Simple Integration with Apache Camel](#) by [Aaron Mulder](#)
- [Claus Ibsen's Apache Camel presentation at the FUSE community day in London 2010.](#)
- [FuseSource presentations on Camel and other related Apache projects](#)
- [Claus Ibsen presented Apache Camel at Devvix 2010](#) - Slides from [the presentation](#) Claus did at the Devvix conference.
- [Introduction to Apache Camel](#) is a nice set of slides to get familiar with Apache Camel.
- [Systems Integration in the Cloud Era with Apache Camel](#) (presented by [Kai Wähner](#)) ( Confess 2012 in Austria)
- [Business Process Management \(BPM\) beyond Web Services with Apache Camel and Activiti](#) by [Kai Wähner](#) (CamelOne 2012)
- [Spoilt for Choice - Which Integration Framework to use?](#) by [Kai Wähner](#) (CamelOne 2012 in Boston)
- [Getting started with Apache Camel](#) - at [Devconf](#) february 2013. Presentation by [Claus Ibsen](#)
- [CamelOne 2013](#) - [CamelOne](#) conference with various talks with Camel, ActiveMQ, ServiceMix, CXF, Karaf both technical and real-life presentations.
- [Getting started with Apache Camel](#) - at Barcelona JUG january 2014. Presentation by [Claus Ibsen](#).
- [Workshop with Apache Camel](#) - at Barcelona JUG january 2014. Given by [Claus Ibsen](#).
- [Microservices with Apache Camel](#) - at London Microservices Day June 2015 presented by Claus Ibsen.
- [Developing, Testing and Scaling with Apache Camel](#) - at UberConf 2015 by Matt Raible. A presentation how Matt migrated a legacy system to open source with Apache Camel and Spring Boot. And how to integrate test with Camel and Gatling.
- [Apache Camel Introduction & What's in the box](#) - Slides from JavaBin talk in Grimstad Norway, presented by Claus Ibsen in February 2016. This slide deck is full up to date with latest Apache Camel 2.16.2 release and includes additional slides to present many of the features that Apache Camel provides out of the box.
- [Apache Camel the Integration Library](#) - Slides from ApacheCon EU 2016 presented by Claus Ibsen.
- [Developing Cloud Ready Camel Microservices](#) - Video from Red Hat Summit 2017 presented by Claus Ibsen. Source code and slides available here: <https://github.com/davsclaus/minishift-hello>
- [The Forgotten Route: Making Apache Camel Work for You](#) - Video from ApacheCon 2017 presented by John Saboe. Apache Camel is eight years old, and some say it's effectiveness as the glue between components has diminished. John Saboe says, "Not so!"
- [Developing Cloud Reday Camel Microservices](#) - Video from JBCNConf 2017 presented by Claus Ibsen. Source code and slides available here: <https://github.com/davsclaus/minishift-hello>
- [Integrating Applications: The Reactive Way](#) - Video from JBCNConf presented by Nicola Ferraro.

## Podcasts

- [James Strachan was interviewed by Dana Gardner](#)
- [Episode 35 - A few beers with Chariot's Open Source Integration Experts](#) - Chariot TechCast Episode 35 where they talk about: ServiceMix, Camel, FUSE, Mule, Spring Integration, EIP, ESB etc.
- [The Basement Coders Episode 14 - Apache Camel](#) - Basement Coders discusses Apache Camel. You may want to skip to the 25 minute where they start talking about Camel.
- [JBoss Asylum Podcast Episode 28 - Fuse stories](#) - Podcast from January 2013 with James Strachan and Rob Davies with the background history and how they got into creating Apache Camel, and how they tink Camel has become such successful.
- [Podcast James Strachan - Mr Apache Camel](#) - Podcast from February 2013 with James Strachan about Apache Camel, integration and the cloud.
- [Developer Interview with Claus Ibsen](#) - Video interview August 2014 with Claus Ibsen about Apache Camel, Camel tooling, and about the upcoming Camel release.
- [Java Pub House - Episode 62. Hm, what's the best to travel this holiday? on Apache CAMEL, of course!](#) - Podcast from January 2017 talking about what is Apache Camel and sharing real life experience from using it on multiple projects.

## Books

- [Camel Design Patterns](#) by [Bilgin Ibryam](#) (LeanPub, January 2016)
- [Apache Camel Developer's Cookbook](#) by [Scott Cranton and Jakub Korab](#) (Packt Publishing, December 2013)
- [Instant Apache Camel Messaging System](#) by [Evgeniy Sharapov](#) (Packt Publishing, September 2013)
- [Instant Apache Camel Message Routing](#) by [Bilgin Ibryam](#) (Packt Publishing, August 2013)
- [Camel in Action](#) by [Claus Ibsen and Jonathan Anstey](#) (Manning, December 2010)
- [Enterprise Integration Patterns](#) by [Gregor Hohpe and Bobby Woolf](#) (Addison Wesley, October 2003)

## Online Training

- [Introduction to Apache Camel](#) - Pluralsight online training course covering the core Camel framework, pattern implementations and [hawt.io](#)
- [Apache Camel Video Tutorial](#) - A 3 part video series that introduces you to Apache Camel, covers an use-case, and then highlights why you should use Camel.
- [Java In Use](#) - Apache Camel Introduction, Apace Camel Interview Questions, and other beginner related training for Apache Camel.
- [Udemy Training: Apache Camel for Beginners - Learn by Coding in Java](#) - Learn Apache Camel framework by coding it in Java. This is purely a coding course where you will be performing ton of code throughout the course. This course will cover integrations with Kafka, Active MQ, Postgres SQL , Rest WebServices and etc.

- [Max Munus](#) - Provides online training to many different technologies. They provide online training for Apache Camel.

## Other

- [Linkedin Apache Camel group](#) - Linkedin group for the Apache Camel project.
- [Google Plus Apache Camel community](#) - G+ community for the Apache Camel project.
- [EIP printable flashcards](#) - A 6 page PDF with printable EIP cards.
- There are several companies that provide extra documentation, examples, tutorials, etc... See the [Commercial Camel Offerings](#) page for more details.
- [Apache Camel Reference Card at DZone](#) by *Claus Ibsen*
- [The Top Twelve Integration Patterns for Apache Camel Reference Card at DZone](#) by *Claus Ibsen*
- [Essential Camel Components Reference Card at DZone](#) by *Christian Posta*
- The Apache Camel Components Poster ([PDF](#), [PDF w/ crops and bleed](#), [JPG image](#), [Printed](#)) by *Gliesian LLC*. (October, 2013)
- [TrustRadius Apache Camel Reviews](#) - Reviews and ratings from Camel end users on the TrustRadius website.

## Blogs

- [Ashwin Karpe's Blog \(OpenSourceKnowledge\)](#) - Ashwin is a Camel committer and writes about Camel.
- [Ben O'Day's Blog](#) - Ben works in the field and sometimes blogs about Camel
- [Bilgin Ibryam's Blog](#) - Bilgin blogs about Camel, OFBiz and Open Source in general.
- [Charles Mouliard's Blog](#) - Charles occasionally blogs about Camel and OSGi
- [Christian Schneider's Blog](#) - Christian occasionally blogs about Camel and CXF.
- [Claus Ibsen's Blog](#) - Claus is a Camel committer since March 2008, and writes a lot about Camel.
- [Hadrian Zbarcea](#) - also blogs about Camel.
- [James Strachan's Blog](#) - James blogs about Camel sometimes too 😊
- [Jean-Baptiste Onofré's Blog](#) - JB blogs about Camel, CXF, Karaf, ServiceMix and OSGi in general.
- [Jon Anstey's Blog](#) - Jon occasionally blogs about Camel
- [Kai Wähler's Blog](#) - Kai blogs about Camel, ESB, Cloud, and present Camel at various conferences as well.
- [Luca Burgazzoli's Blog](#) - Luca blogs about Camel, Cloud, Fabric8, Kubernetes.
- [Marcelo Jarbali's Blog](#) - Marcelo blogs about Websocket, Camel and integration.
- [Michael Warecki's Blog](#) - Michael blogs about SOA, BPA and Camel.
- [Raul Kripalani's Blog](#) - Raúl blogs about Camel, ServiceMix, ActiveMQ, CXF, SOA, Open Source in general, both in Spanish and English.
- [Robert James Liguori's Blog](#) - Blogs about Java and supporting resources including Apache Camel.
- [Tracy Snell's Blog](#) - Tracy frequently blogs about Camel.
- [Willem Jiang's Blog](#) - Willem also writes about Camel in English and Chinese.
- [Souciance Eqdam Rashti](#) - Blogs about integration and Apache Camel in English.

## Twitterers

- [@davsclaus](#) - Claus Ibsen ([@davsclaus](#)) tweets often about Camel, open source, and integration.
- [@bibryam](#) - Bilgin Ibryam ([@bibryam](#)) tweets often about Camel.
- [@jstrachan](#) - James Strachan ([@jstrachan](#)) tweets about Camel, open source and integration.
- [@hekonsek](#) - Henryk Konsek ([@hekonsek](#)) tweets about Camel and the Internet Of Things

## Non-English

- [Domain-Specific Languages \(DSLs\) in Apache Camel \(Spanish\)](#) by *Gema Perdiguero* [Apache Camel integration in ServiceMix \(Spanish\)](#) by *Sebastián Gómez*
- [Apache Camel: Enterprise Integration met scripttalen en DSLs \(Dutch\)](#) by *Peter Maas*
- [A practical example of using Camel and Groovy to post russian currency rates on Twitter in russia](#) by *dulanov*
- [Java integration frameworks - Spring Integration vs. Apache Camel](#) Article from April 2010 which compares the two frameworks (**in french**).
- [3 Articles about Apache Camel to push notifications to Apple devices \(in French\)](#) by *Alexis Kinsella*
- [Apache Camel for beginners - In polish](#), article from online magazine posted in 2012 introducing Apache Camel.
- [Apache Camel open source integration - In German](#), a 20 minute video posted in early 2015 covering Apache Camel
- [Integration in a Microservices Style - In French](#), a 30 minute video from Devovx France 2017. Abdellatif Bouchama presents how to run Camel as microservices in containers using Kubernetes.
- [Why do we have to learn Apache Camel now](#) - In Japanese from Japan Camel User Group September 2017.
- [Telão Interativo SPTV com Apache Camel](#) - In Portugese from February 2018. Willian Antunes blogs about a Camel project used for grabbing tweets and live update on webpage. Using Camel, ActiveMQ, twitter, webscokets and Spring Boot.
- [Apache Camel vs Enterprise Service Bus](#) - In Portugese from April 2018. Rafael Manzoni discusses the pros/cons of using Camel vs an ESB /SOA platform, and also some thoughts on modern cloud native applications and how Camel fit in there as well.
- [Apachel Camel and Kotlin: Extension functions in practice](#) - In Portugese from December 2018. Willian Antunes blogs about unit testing Camel with Kotlin and Camel's advice with functionality.