Building REST Services with Apache CXF

Desert Code Camp 2016

Presenters

Aaron Hoffer

Travis McMahon

Connexta

Things we will demo

- Running REST services
- JAX-RS
- REST CRUD: Get, Post, Put, Delete
- Changing resource representation between XML and JSON
- Autogenerating API documentation
- Enabling SSL/TLS
- REST HATEOAS using link headers

What is CXF?

- Framework for service-oriented applications
- Supports multiple service approaches:
  - SOAP, REST, POX, and other flavors
- Supports multiple transports
  - HTTP, message queues, others
- Standards driven
  - JAX-WS, JAX-RS, lots of OASIS WS* standards

CXF part of Apache Service Mix

- Suite of software to create an enterprise service bus
  - Includes ActiveMQ, Camel, CXF, Karaf
- Other Code Camp 2016.1 presentations:
  - *Building Micro-services with OSGi Apache Karaf* (1:00-2:00)
  - *Using Apache Camel for Enterprise Integration*, (2:15-3:15)

What is JAX-RS?

- Java API for RESTful Web Services
- Add annotations to create services
- It's a standard
  - JSR-339 specification
- Implementations include CXF, Jersey, RESTEasy, others

About JAX-RS

- Use annotations to control:
  - When a method is invoked
  - What is passed into the method
  - What method should return
- JAX-RS Annotation you will see today
  - @Path (The URL)
  - @GET, @PUT, @POST, (The HTTP verb)
  - @Produces (The MIME type of the response)
  - @PathParam
  - @Context
- There are other JAX-RS annotations as well

More JAX-RS

- Providers
  - Provide (HTTP) message body readers/writers
  - Provide object serialization/deserialization
  - JAXB to convert between Java objects to XML
  - Jackson to convert between Java objects and JSON
- Other classes
  - Request
  - Response
  - UriInfo
  - UriBuilder
  - Link