Building REST Services with Apache CXF

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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 protocols (styles?) for a service
- Supports multiple transports (HTTP, message queues, others)
- Standards driven
  - JAX-WS
  - JAX-RS
  - Lots of OASIS WS-* standards
- CXF is part of *Service Mix*
  - Suite of Apache software to create an enterprise service bus

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