# OADR2 VTN Reference Implementation – Jeff LaJoie

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## Project Overview

The project was done in the Java version of Play2 Framework, currently in version 2.0.4. The database system used is h2, and written simply to a directory and file created in the directory of the project. Utilizing Twitter Bootstrap CSS for design, as well as the Scala helper functions of Play2, the forms and display of pages are generated. Form binding to POJOs is handled via the framework based on the naming conventions of objects. JQuery is used for AJAX to refresh the pages in the Events display pages, as well as a Javascript date picker and time picker for the Event creation form. The library chosen for XMPP usage was Smack, and was tested with Openfire.

## Design

The reference implementation attempted to follow MVC principles, as the Play2 Framework encouraged this practice. Models consisted of classes, which were bound and created from the forms. Those forms in turn, were the views, and created using the Scala helper functions, generating .scala.html files. As such, the controllers did the routing of the scala.html files, as well as business logic for CRUD operations and rendering of web pages. As a rule, each model had a controller to manage it, and the associated views for such models; for an example, Events controller manages Event objects, and renders the pages of newEvent.scala.html, editEvent.scala.html and events.scala.html.

Singletons were used, both with Guice and lazy initialization. The module.Dependencies class is used by Play2 for configuration of the Guice plugin, and all singletons to be injected into the controllers package (note, controllers is the default injection package, and Play2 does not permit injection into multiple packages) are contained in the service package. The ProtocolRegistry is also a singleton, though not injected into controllers, and is used by the different protocols to determine which type of IProtocol the VEN contains, to be used for appropriate sending of payloads.