

# Apache Tomcat as a transport in CXF



## R&D Project Initial Presentation

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# Project description

Integration between CXF and embedded Tomcat - is the initial goal of our project.

CXF is a java open source framework that makes writing messaging for applications easier.

Transport:

- HTTP
- JMS
- Local (inside JVM)

Tomcat is an open source java HTTP web server.

# CXF

Apache CXF is an open-source, fully featured Web services framework.

Distributed under Apache licence

CXF is designed to be intuitive and easy to use. There are simple APIs to quickly build code-first services.

Maven plugins to make tooling integration easy, JAX-WS API support, Spring 2 support to configure everything instantly, and much more.

High performance with minimum computational overhead.

# Tomcat

Tomcat is a Java Servlet Container - web server. Implements several Java EE implementations (Servlets, JSP, Websockets etc.)

Apache Tomcat software powers numerous large-scale, mission-critical web applications across a diverse range of industries and organizations

Tomcat is easy to tune, to deploy and to integrate with applications

Tomcat is very widespread and popular across java community, that makes it appear on first charts when choosing web server for your applications

Supports many versions of java and is being supported by many frameworks as well (Spring, Java EE)

# Project organization

Remote work

Communication via email and bluejeans

Weekly reports

Commits represent functionality done

Track status of project with Trello

# Methodology

Proceeding based on framework proposed by “Design Science Research in Information Systems” from Von Alan, R. Hevner, et al. in MIS quarterly 28.1 (2004): 75-105.:

1. Study existing systems
2. Propose a concept
3. Implement the concept
4. Test the implementation

# Goals

1. Understand underlying principles of embedded Jetty and Undertow in CXF scope
2. Investigate the challenge of embedding apache tomcat into CXF
3. Design a solution and propose TDD approach
4. Develop the solution
5. Demonstrate it using a basic HTTP REST service for Tomcat

# Objectives for goals 1 & 2

Figure out how to start embedded Tomcat

Make Tomcat register CXF servlet

Use Jetty and Undertow as examples



# Objectives for goals 3

Design concept

Define minimal requirements

Write tests using TDD approach

# Objectives for goals 4

Create CXF JAX-RS client & service applications

Integrate REST messaging between client and service

Merge realization if needed into both repositories

# Objectives for goal 5

Create proof of concept web services that are able to use CXF over Tomcat Embedded web server

Demo

# Risks and Constraints

Wrong task estimation

Unequal amount of work

Lots to learn and explore

Adapting to changes in upstream projects

Coding guidelines, test coverage and documentation imposed by Tomcat/Apache

# Deliverables

Code on github (including tests)

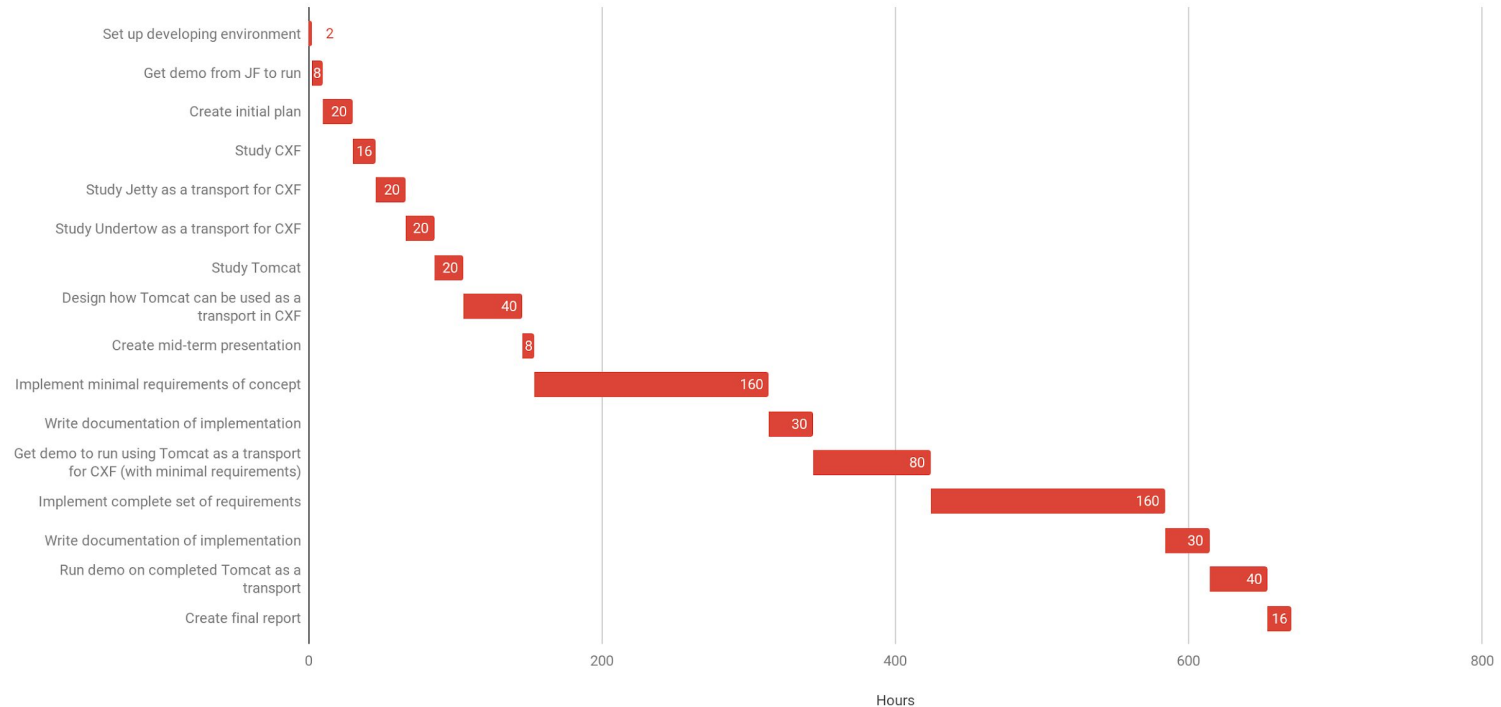
Documentation (including designed concept)

Proof of concept application

GitHub repository:

<https://github.com/vaano94/TomcatCXF>

# Estimated schedule



# Done so far

Goals are defined

Problem and ways to solve it are identified

Preparations done i.e. environment configuration, documentation and etc.

Schedule

# Questions?



# CXF as a transport in Apache Tomcat



**redhat.**

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