

Workshop 31: REST and AJAX

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Objectives

Introduction to REST-ful architecture and the JavaScript AJAX API (using jQuery).

Resources

Code samples from I31, see lectures.

JEE Context and dependency injection (CDI) [reference](#)

JEE RESTful [reference \(Jersey\)](#)

Many [code samples for JAX-RS](#)

[CORS](#)

Test some public REST API

Checkout some [public REST API's](#) using the browser. Use returned links to dig deeper.

Test Backends

Download **I31.zip**.

1. Run and inspect /I31/node_express_rest. Test using curl. Do one minor modification.
2. Add [TomEE 1.7.4](#) Microprofile (=jax-rs) to NetBeans (location: /chalmers/groups/ws-devel/).
 - a. Create a new catalinabase directory (.netbeans/8.x/catalinaTomEE)
 - b. Add TomEE to NetBeans. Services > Servers > ...
3. Open /I31/jee_jaxrs_rest in NetBeans. Run and inspect. Test using curl. Do one minor modification.

A RESTful Backend

Once again we use the todo list model. Now we wrap the model in a RESTful service. For example URLs see file curl_test.txt.

Choose one of the approaches below.

1. JEE (JAX-RS, CDI, TomEE)

We'll use some APIs not natively supported by Tomcat so use, TomEE or try GlassFish 4.1 (not 4.1.1.)

The APIs used: [JEE REST \(JAX-RS\) tutorial](#) [CDI Basics](#)

1. Download and unzip **jee_todo_rest.zip**
2. See // TODO comments what to do. Test using curl, see curl_test.txt!

Optional

An alternative could be [Spark!](#). If time, give it a try.

2. NodeJS (JavaScript, Express)

Nothing new here. Use Node/Express to return JSON instead of pages (there is an [express-rest plugin](#), try if you like, optional).

1. Download **node_todo_rest.zip**.
2. Check out //TODO comments what to do. Test using curl, see curl_test.txt!

Browser AJAX calls

To test the RESTful service from a browser we create a simple client using jQuery (DOM and AJAX API).

1. Try to run /l31/ajax against any backend. Probably need to modify path's, requests will (should) probably fail, see next ...
2. Client and backend should run on different domains (hs and node). Thus, we must enable CORS. If your backend not is CORS enabled modify it. Test with curl.
3. Create a client application with an HTML-page and a JavaScript AJAX-module to call the backend. Send AJAX requests and dump raw data in page.
4. Start backend and use hs to run client (i.e. different domains).

Examination

Contact teaching assistant for a demo.