

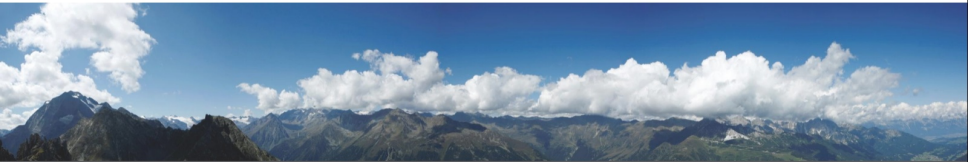


STI · INNSBRUCK

703128 PS/2 Web Services

XML-RPC

Tuesday, 2015-11-03



No.	Date	Bi-Weekly Exercise	Project	
			Presentation	Report
1	Tue, 2015-10-13			
2	Tue, 2015-10-20	✓		
3	Tue, 2015-10-27		✓	
4	Tue, 2015-11-03	✓		
5	Tue, 2015-11-10		✓	
6	Tue, 2015-11-17	✓		
7	Tue, 2015-11-24		✓	
8	Tue, 2015-12-01	✓		
9	Tue, 2015-12-15		✓	✓
10	Tue, 2016-01-12	✓		
11	Tue, 2016-01-19		✓	
12	Tue, 2016-01-26	✓		
13	Tue, 2016-02-02		✓	✓

- XML-RPC
 - Overview
- Exercise #2
 - Temperature Conversion



XML-RPC

- It is a specification and a set of implementations that allow software running on disparate operating systems, running in different environments to make procedure calls over the Internet.
- It is a remote procedure calling using HTTP as the transport and XML as the encoding.
- XML-RPC is designed to be as simple as possible, while allowing complex data structures to be transmitted, processed and returned.

- Dave Winer working for UserLand ¹ designed a protocol called “RPC” (1998)
- Dave Winer started to work with Microsoft on something called “SOAP” based on “RPC”
- The specification forked and “XML-RPC” was published
- XML-RPC gained quite a bit of popularity
- Hannes Wallnöfer implemented an XML-RPC library in Java (Helma XML-RPC) migrated now to Apache
<http://ws.apache.org/xmlrpc/>

¹Web CMS, object database, scripting, tools, HTTP server, Win & Mac

- C/C++
- ObjectiveC
- Delphi/Kylix
- Java
- Perl
- PHP
- Python
- TCL
- Ruby
- Rebol
- Scheme
- Lisp
- Lingo client
- AppleScript
- JavaScript
- ASP
- Cold Fusion
- WebObjects
- Zope
- Flash client

POST /RPC2 HTTP/1.0

User-Agent: Frontier/5.1.2 (WinNT)

Host: betty.userland.com

Content-Type: text/xml

Content-length: 181

HTTP Request Header

<?xml version="1.0"?>

<methodCall>

 <methodName>examples.getStateName</methodName>

 <params>

 <param>

 <value><i4>41</i4></value>

 </param>

 </params>


</methodCall>

Method

Parameter

(*) <http://xmlrpc.scripting.com/spec.html>

HTTP/1.1 200 OK
Connection: close
Content-Length: 158
Content-Type: text/xml
Date: Fri, 17 Jul 1998 19:55:08 GMT
Server: UserLand Frontier/5.1.2-WinNT



HTTP Request Header

```
<?xml version="1.0"?>
<methodResponse>
  <params>
    <param>
      <value><string>South Dakota</string></value>
    </param>
  </params>
</methodResponse>
```



Result

(*) <http://xmlrpc.scripting.com/spec.html>

- `i4`, or `int` → A 32-bit, signed, and non-null, integer value
- `boolean` → A non-null, boolean value (0, or 1)
- `string` → A string, non-null
- `double` → A signed, non-null, double precision, floating point number
- `dateTime.iso8601` → A pseudo ISO8601 timestamp, like 19980717T14:08:55
- `base64` → A base64 encoded byte array
- `struct` → A key value pair. The keys are strings. The values may be any valid data type, including another struct
- `array` → An array of objects. The array elements may be any valid data type, including another array

(*) <http://ws.apache.org/xmlrpc/types.html>



Exercises

Assignment:

1. Download the worksheet from the course webpage
2. Complete the exercises in the worksheet
3. Send it to the tutors (ws1516@sti2.at) before the next two sessions



Thank You