SOAP4ooRexx

2015 International Rexx Symposium
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1st April 2015
Vienna
Austria
Index

- Web services – Why?
- What is SOAP – A short briefing
- SOAP400Rexx – A how to
- Demonstration
Web Services – Why?

- Make you applications richer
  - New possibilities
- Faster development with: existing components on the web
- A standardized way
- Platform independent
SOAP – A short briefing

• SOAP – Simple Object Access Protocol
  ... but not as simple as it sounds!

• Standardized protocol for communication between
  web services and consumers

• XML – based

• Mostly over HTTP/HTTPS

• Current version: 1.2

• W3C Standard
SOAP by example

Weather web service:

Step 1)

WSDL – Web Service Definition Language

Step 2)

Request – GetWeather (Austria, Vienna)

Response – GetWeatherResult

Consumer

Weather web service

SOAP Envelope
Wrapper with meta-information used for communication
WSDL

- WSDL – Web Service Definition Language
- XML-based
- Contains definitions e.g.:
  - Web service address
  - Communication Protocol
  - Methods and Parameters
SOAP Envelope

GetWeather – Request envelope

```
<?xml version="1.0" encoding="utf-8"?>
<soap12:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap12:Body>
    <GetWeather xmlns="http://www.webserviceX.NET">
      <CityName>Vienna</CityName>
      <CountryName>Austria</CountryName>
    </GetWeather>
  </soap12:Body>
</soap12:Envelope>
```

- Envelope gives meta information like: SOAP Version
- Structure of envelope depends on the web service definition
SOAP4ooRexx – Let's start

```
SOAPServiceProxy = .SOAPServiceProxy~new("http://www.webservicex.net/globalweather.asmx?WSDL")
::requires "SOAP4ooRexx.cls"
```

SOAP4ooRexx Class Package
SOAP4ooRexx - Report

```plaintext
soapServiceProxy = .SOAPServiceProxy~new("http://www.webservicex.net/globalweather.asmx?WSDL")
soapServiceProxy~report()
::requires "SOAP4ooRexx.cls"
```

Generates HTML report of the whole WSDL
Easier to read and sample code is included
SOAP4ooRexx – How to

```rexx
ssoapServiceProxy = .SOAPServiceProxy~new("http://www.webservicex.net/globalweather.asmx?WSDL")
soapService = soapServiceProxy~serviceByName("GlobalWeather")
GetWeather = soapService~soap.createOMEElement("GetWeather")
CityName = soapService~soap.createOMEElement("CityName")
CityName~om.setText("Wien")
GetWeather~om.addChild(CityName)
CountryName = soapService~soap.createOMEElement("CountryName")
CountryName~om.setText("Austria")
GetWeather~om.addChild(CountryName)
resultObject = soapService~soap.sendSOAPRequest("GetWeather", GetWeather)
say resultObject~GetWeatherResult
::requires "SOAP4ooRexx.cls"
```

Select web service

Object Model: Method and Parameters

Send request to web service

say the result
soapServiceProxy = SOAPServiceProxy-new("http://www.webservicex.net/globalweather.asmx?WSDL")
soapService = soapServiceProxy-defaultService()

resultObject = soapService-getWeather("Wien","Austria")

say resultObject:GetWeatherResult
::requires "SOAP4ooRexx.cls"

Short Version, useful when the service complexity is not high
Demonstration
SOAP4ooRexx

- SOAP4ooRexx a generic client for consuming SOAP 1.2 based web services
- Written in ooRexx and Java
- Requires: ooRexx, BSF4ooRexx and Java
- Project status: Work in progress
- Version: 1.0 Beta
- Based on Apache Axis2
Outlook
Questions?