



703128 PS/2 Web Services

Web Services

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Outline

- Web Services
 - Overview
 - SOAP
 - WSDL
 - UDDI
- Exercises
- Project Updates

What are Web Services?

- Web services are yet another approach to distributed systems
 - using open protocols
 - self-contained and self-describing
 - it can be discovered on the Internet using a standard mechanism

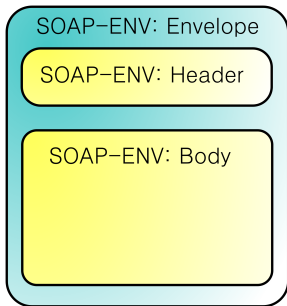
- XML is the basis for Web services

How Does it Work?

- The basic Web services platform is XML + HTTP
- XML provides a language which can be used between different platforms and programming languages and still express complex messages and functions
- The HTTP protocol is the most used Internet protocol
- Web services platform elements:
 1. SOAP (Simple Object Access Protocol)
 2. WSDL (Web Services Description Language)
 3. UDDI (Universal Description, Discovery and Integration)

What is SOAP?

- SOAP is an XML-based protocol to let applications exchange information



```
POST /InStock HTTP/1.1
Host: www.example.org
Content-Type: application/soap+xml; charset=utf-8
Content-Length: nnn
```

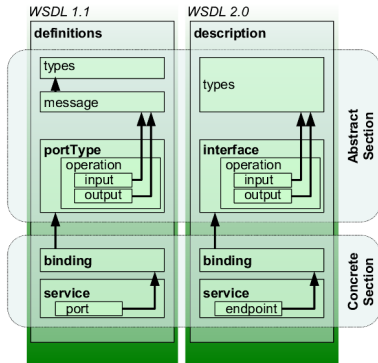
```
<?xml version="1.0"?>
<soap:Envelope
  xmlns:soap="http://www.w3.org/2001/12/soap-envelope"
  soap:encodingStyle="http://www.w3.org/2001/12/soap-encoding">

  <soap:Body xmlns:m="http://www.example.org/stock">
    <m:GetStockPrice>
      <m:StockName>IBM</m:StockName>
    </m:GetStockPrice>
  </soap:Body>

</soap:Envelope>
```

What is WSDL?

- WSDL is a document written in XML describing a Web service
- It specifies the location of the service and the operations (or methods) the service exposes

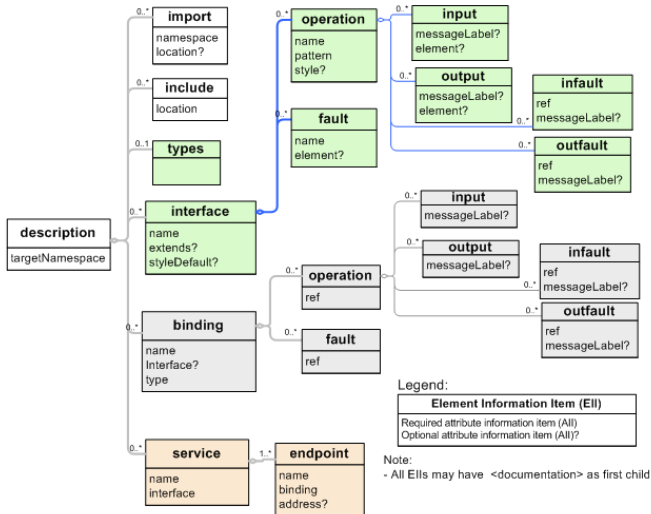


The data types used by the web service

The operations performed by the web service

The communication protocols used by the web service

WSDL 2.0 Elements



What is UDDI?

- UDDI is a platform-independent framework for describing services, discovering businesses, and integrating business services by using the Internet
- UDDI is a directory service where companies can register and search for Web services
- Problems the UDDI specification can help to solve:
 - i. Making it possible to discover the right business from the millions currently online
 - ii. Defining how to enable commerce once the preferred business is discovered
 - iii. Reaching new customers and increasing access to current customers, expanding offerings and extending market reach
 - iv. Solving customer-driven need to remove barriers to allow for rapid participation in the global Internet economy
 - v. Describing services and business processes programmatically in a single, open, and secure environment

Task

Assignment:

1. Download the worksheet from the course webpage
2. Complete the exercises in the worksheet
3. Upload it to the OLAT before the next two sessions

Project Updates

Your task until 2017-11-24:

1. You should have a clear idea how to integrate all selected services into the interface of your application
2. Prepare Project Progress Report Presentation Slides
 - Content:
 - i) Explain the integrated interface of your application
 - ii) Explain users scenarios on how to access your application
 - Present it in the next session (2017-11-24)

Thank You