Web Services Description Language (WSDL) Version 2.0 SOAP 1.1 Binding

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Abstract

WSDL SOAP 1.1 Binding describes the concrete details for using WSDL 2.0 in conjunction with SOAP 1.1 [*SOAP11 [p.7]*] protocol.

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1. Introduction

The Web Services Description Language (WSDL) provides a model and an XML format for describing Web services. WSDL SOAP 1.1 Binding (this specification) describes the binding extension for SOAP 1.1 [*SOAP11 [p.7]*] protocol. This binding is intended to ease the migration from WSDL 1.1 to WSDL 2.0 for implementers describing services that use SOAP 1.1 protocol. And, this binding allows users to continue using SOAP 1.1 protocol.

This specification depends on WSDL 2.0 [*WSDL 2.0 Core [p.6]*] and WSDL 2.0 Adjuncts [*WSDL 2.0 Adjuncts [p.6]*].

1.1 Notational Conventions

This specification uses a number of namespace prefixes throughout; they are listed in Table 1-1 [p.3] . Note that the choice of any namespace prefix is arbitrary and not semantically significant (see [*XML Information Set [p.7]*]).

This specification uses curly brackets (e.g., {property}) to indicate a property in the WSDL component model, as defined in Part 1 [*WSDL 2.0 Core [p.6]*] Component Model.

Table 1-1. Prefixes and Namespaces used in this specification

Prefix	Namespace	Notes
wsdl	"http://www.w3.org/ns/wsdl"	A normative XML Schema [*XML Schema: Structures [p.7]*], [*XML Schema: Datatypes [p.7]*] document for the "http://www.w3.org/ns/wsdl" namespace can be found at http://www.w3.org/ns/wsdl.
wsoap	"http://www.w3.org/ns/wsdl/soap"	A normative XML Schema [*XML Schema: Structures [p.7]*], [*XML Schema: Datatypes [p.7]*] document for the "http://www.w3.org/ns/wsdl/soap" namespace can be found at http://www.w3.org/ns/wsdl/soap.
whttp	"http://www.w3.org/ns/wsdl/http"	A normative XML Schema [*XML Schema: Structures [p.7]*], [*XML Schema: Datatypes [p.7]*] document for the "http://www.w3.org/ns/wsdl/http" namespace can be found at http://www.w3.org/ns/wsdl/http.
xs	"http://www.w3.org/2001/XMLSchema"	Defined in the W3C XML Schema specification [*XML Schema: Structures [p.7]*], [*XML Schema: Datatypes [p.7]*].

Namespace names of the general form "http://example.org/..." and "http://example.com/..." represent application or context-dependent URIs [*IETF RFC 3986 [p.6]*].

All parts of this specification are normative, with the EXCEPTION of examples, and sections explicitly marked as "Non-Normative".

2. SOAP 1.1 Binding

2.1 Identifying a SOAP 1.1 Binding

A SOAP Binding is identified as a SOAP 1.1 binding by assigning the value "1.1" to the {soap version} property of the Binding component.

2.2 Description

The SOAP 1.1 binding enables Web Service applications to use SOAP 1.1 [*SOAP11 [p.7]*] by extending the SOAP binding in the WSDL Adjuncts specification [*WSDL 2.0 Adjuncts [p.6]*]. This binding supports the following:

- **Message Exchange Patterns** - supports two Message Exchange Patterns defined by the WSDL Adjuncts specification [*WSDL 2.0 Adjuncts [p.6]*]: In-Out and In-Only.
- **SOAP Modules** - supports SOAP Modules and allows users to indicate SOAP Modules using the SOAP Module component. For SOAP 1.1, this specification adopts the conceptual definition of SOAP Module as described in the SOAP 1.2 specification [*SOAP 1.2 Part 1: Messaging Framework (Second Edition) [p.6]*].

  The term "SOAP Module" (also known as SOAP Extensions) refers to the specification of the syntax and semantics of one or more SOAP header blocks.

  Note:

  An IRI [*IETF RFC 3987 [p.6]*] is required to indicate a SOAP Module in a SOAP 1.1 binding.

- **SOAP 1.1 HTTP Binding** - supports the SOAP 1.1 HTTP binding defined in Section 6, SOAP 1.1 specification [*SOAP11 [p.7]*]. This is indicated by assigning the URI "http://www.w3.org/2006/01/soap11/bindings/HTTP/" to the {soap underlying protocol} property.

  The value of the {soap action} property, if present, identifies the value of the SOAP 1.1 SOAPAction HTTP request header field, Section 6.1.1, SOAP 1.1 specification [*SOAP11 [p.7]*].

  The values of {http location} properties are ignored for SOAP 1.1 HTTP binding.

  Note:

  If the Interface Operation component's {message exchange pattern} property has the value "http://www.w3.org/ns/wsdl/in-only" and the Binding component's {soap underlying protocol} property has the value"http://www.w3.org/2006/01/soap11/bindings/HTTP/", then the HTTP response is undefined. For specific guidance on what the HTTP response ought to be, implementers are referred to the Basic Profile [*BP10 [p.6]*] and/or the latest version of this specification(s).

- **Other SOAP 1.1 Underlying Protocols** - supports other SOAP 1.1 underlying protocols. Other values can be used for the {soap underlying protocol} property in conjunction with the SOAP 1.1 binding provided that the semantics of such protocols are consistent with this binding.

The values of {soap mep default}, {soap mep} and {soap fault subcodes} properties are ignored for SOAP 1.1 binding.

2.3 Default Binding Rule

The following default binding rule applies to SOAP 1.1 binding:

SOAP Action. If the Binding Operation component does NOT have a {soap action} property defined, then the *quoted empty string value ("")* value is used for the SOAP 1.1 SOAPAction HTTP Header Field (see [*SOAP11 [p.7]*]).

2.4 Example (Non-Normative)

The following example shows the WSDL definition of a simple service providing stock quotes. This service supports a single operation called GetLastTradePrice, which is deployed using the SOAP 1.1 protocol over HTTP. GetLastTradePrice operation request takes a ticker symbol of type string, and returns the price as a float.

```
<?xml version="1.0"?>
<wsdl:description name="StockQuote" xmlns:wsdl="http://www.w3.org/ns/wsdl"
  targetNamespace="http://example.com/stockquote"
  xmlns:tns="http://example.com/stockquote"
  xmlns:wsoap="http://www.w3.org/ns/wsdl/soap">

  <wsdl:types>
    <xs:schema targetNamespace="http://example.com/stockquote"
      xmlns:xs="http://www.w3.org/2001/XMLSchema">
      <xs:element name="TradePriceRequest">
        <xs:complexType>
          <xs:all>
            <xs:element name="tickerSymbol" type="xs:string"/>
          </xs:all>
        </xs:complexType>
      </xs:element>
      <xs:element name="TradePrice">
        <xs:complexType>
          <xs:all>
            <xs:element name="price" type="xs:float"/>
          </xs:all>
        </xs:complexType>
      </xs:element>
    </xs:schema>
  </wsdl:types>

  <wsdl:interface name="StockQuoteInterface">
    <wsdl:operation name="GetLastTradePrice"
      pattern="http://www.w3.org/ns/wsdl/in-out">
      <wsdl:input element="tns:GetLastTradePriceInput"/>
      <wsdl:output element="tns:GetLastTradePriceOutput"/>
    </wsdl:operation>
  </wsdl:interface>

  <wsdl:binding name="StockQuoteSoapBinding" interface="tns:StockQuoteInterface"
    type="http://www.w3.org/ns/wsdl/soap"
    wsoap:version="1.1"
    wsoap:protocol="http://www.w3.org/2006/01/soap11/bindings/HTTP/">
    <wsdl:operation ref="tns:GetLastTradePrice"
```

```
      wsoap:action="http://example.com/GetLastTradePrice"/>
  </wsdl:binding>

  <wsdl:service name="StockQuoteService" interface="tns:StockQuoteInterface">
    <wsdl:documentation>My first service</wsdl:documentation>
    <wsdl:endpoint name="StockQuoteEndPoint" binding="tns:StockQuoteBinding"
    address="http://example.com/endpoint/stockquote"/>
  </wsdl:service>

</wsdl:description>
```

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3.1 Normative References

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