

WSDL Import

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WSDL IMPORT OVERVIEW

MEGA now provides a reference to deal with problems relating to system convergence in service-oriented architectures (SOA).

MEGA's aim is to help SOA architects model information systems with reusable, interoperable services. To do so, available services can be imported into **MEGA** from specialized directories based on the UDDI standard. These services are imported as WSDL documents. With the WSDL import tool, you can create these services in the **MEGA** repository or use their description to develop existing **MEGA** services.

Prerequisites

The WSDL import feature is available with **MEGA** Designer and **MEGA** Architecture, which support WSDL version 1.1.

Application Scope

The WSDL import tool imports WSDL service definitions as WSDL files in relation to their WSDL PortType.

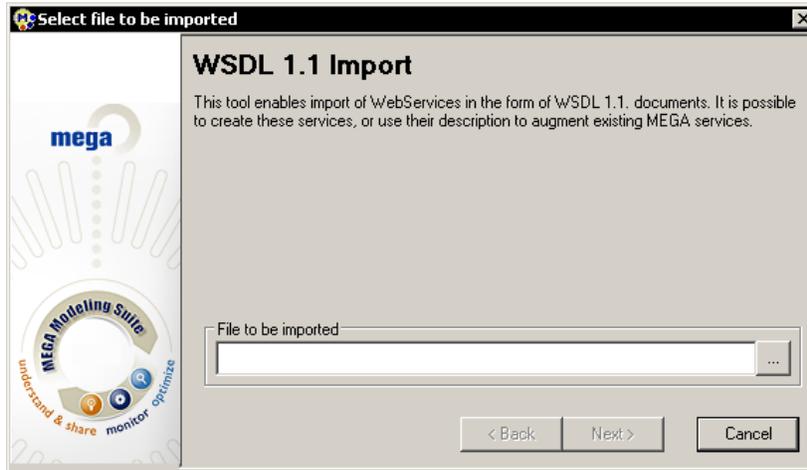
Bindings and message definitions (XSD) are ignored.

Importing WSDL Files

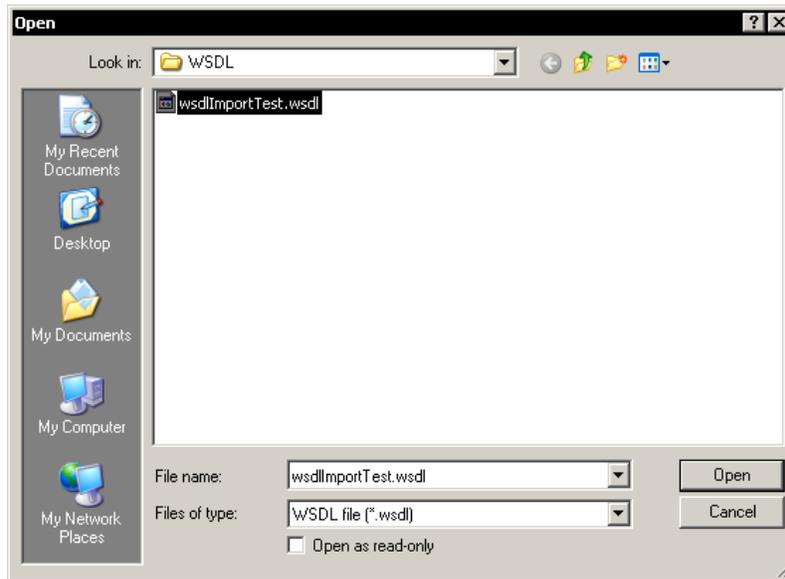
To import a WSDL file into **MEGA**:

1. In **MEGA**, select **File > Import > WSDL (*.wsdl)**.

The import dialog box appears.

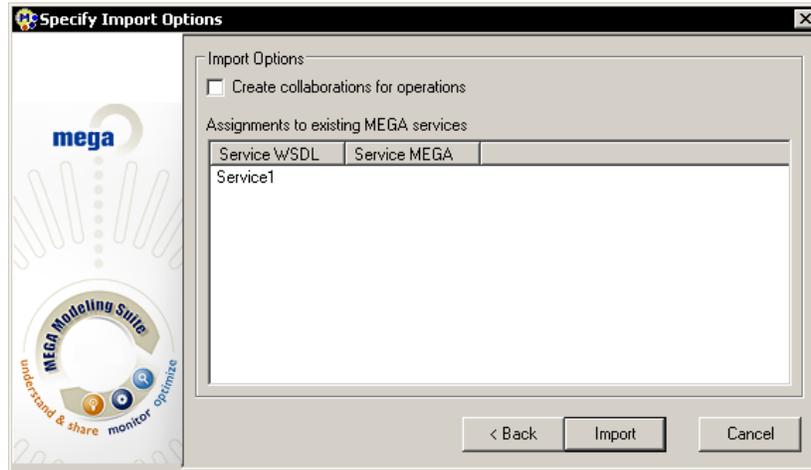


2. Select the file to be imported.



3. Click **Next**.

The 'Import Options' window appears.

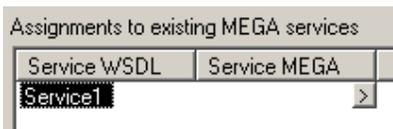


Two options are available :

- Create collaboration for operations: With this checkbox, you can create collaborations for the service operations.
- Assignments to existing services: This list displays the services defined in the WSDL file. You can assign these services to existing **MEGA** services

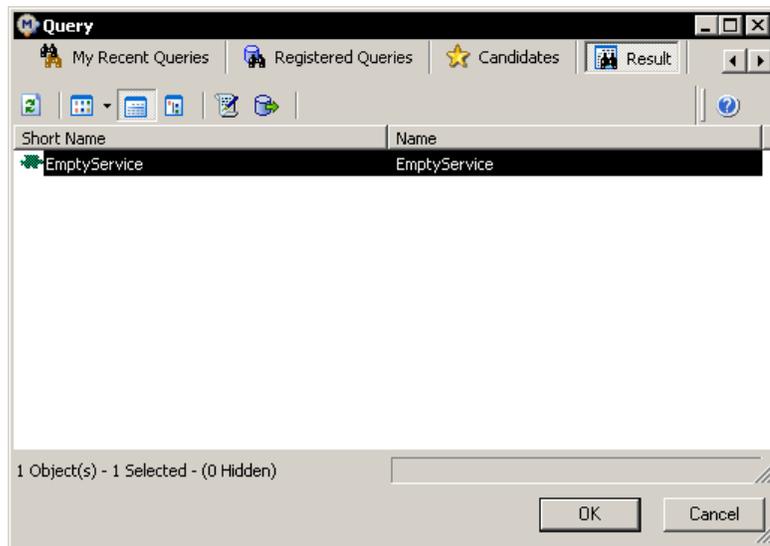
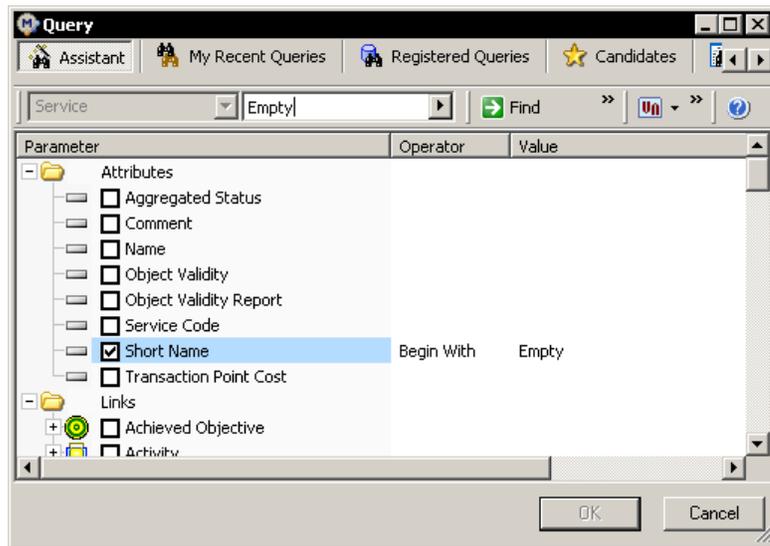
To assign a service to an existing **MEGA** service:

4. Click in the 'Service MEGA' column on the same line as the service concerned, then click on the arrow that appears.



5. In the 'Mega Query' window that appears, find the appropriate **MEGA** service to which you want to assign this specific WSDL service.

As an example, you can assign the 'Service1' service defined in the WSDL file you are importing to the 'EmptyService' Mega Service, already created in the repository.



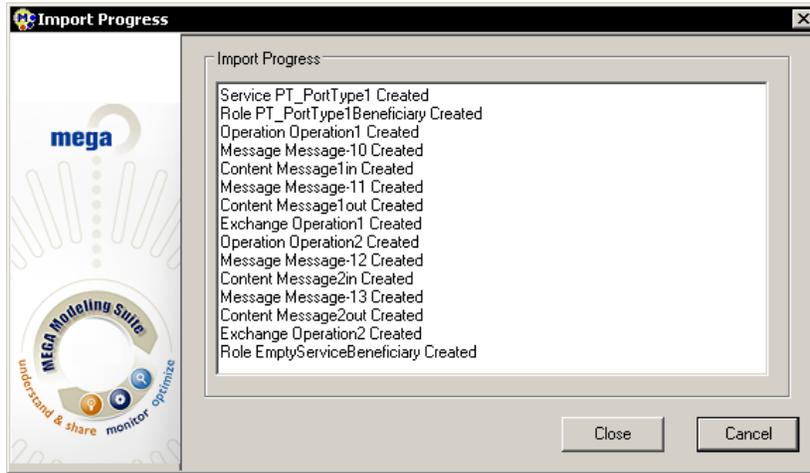
6. Click **OK** to validate.

The name of the assigned service appears in the appropriate cell of the assignment list.

Service WSDL	Service MEGA
Service1	EmptyService

7. Click the **Import** button.

The window that appears shows the progression of the import.



WSDL TO MEGA MAPPING

Modeling WSDL Services in MEGA

PortTypes

Services are described via their PortType, which is the interface of the service.

WSDL PortTypes are represented as services in **MEGA**. The WSDL PortType of a WSDL service is represented as a sub service.

WSDL operations of a PortType are modeled as sub services of the service representing the PortType.

The following elements are shared between the two services that represent a WSDL service and its WSDL PortType:

- Services and collaboration definitions that represent WSDL operations
- Content that define input, output and error messages

Services

WSDL services are represented as services in **MEGA**.

WSDL operations of services are not modeled as sub services. They are only represented in the service's PortType.

WSDL service interactions are represented by Roles that send and receive messages or that collaborate with the sub services that represent their WSDL PortType.

Operations

Each WSDL operation is modeled as a sub service of the PortType to which it is assigned.

A WSDL operation is defined as the:

- Direct input and output messages between a role that represents the WSDL PortType beneficiary and the sub service that represents the WSDL operation.

OR

- Collaboration between the role representing the WSDL PortType beneficiary and the sub service that represents the WSDL operation. In this case, input and output messages are defined in the collaboration definition.

In both cases, input, output and error messages are linked by an exchange.

Example: The Hello_Service

WSDL file

```
<?xml version="1.0" encoding="UTF-8"?>
<definitions name="HelloService"
  targetNamespace="http://www.ecerami.com/wsdl/HelloService.wsdl"
  xmlns="http://schemas.xmlsoap.org/wsdl/"
  xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
  xmlns:tns="http://www.ecerami.com/wsdl/HelloService.wsdl"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema">

  <message name="SayHelloRequest">
    <part name="firstName" type="xsd:string"/>
  </message>
  <message name="SayHelloResponse">
    <part name="greeting" type="xsd:string"/>
  </message>

  <portType name="Hello_PortType">
    <operation name="sayHello">
      <input message="tns:SayHelloRequest"/>
      <output message="tns:SayHelloResponse"/>
    </operation>
  </portType>

  <binding name="Hello_Binding" type="tns:Hello_PortType">
    <soap:binding style="rpc"
      transport="http://schemas.xmlsoap.org/soap/http"/>
    <operation name="sayHello">
      <soap:operation soapAction="sayHello"/>
      <input>
        <soap:body
          encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
          namespace="urn:examples:helloservice"
          use="encoded"/>
        </input>
      <output>
        <soap:body
          encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
          namespace="urn:examples:helloservice"
          use="encoded"/>
        </output>
      </operation>
    </binding>

  <service name="Hello_Service">
    <documentation>WSDL File for HelloService</documentation>
    <port binding="tns:Hello_Binding" name="Hello_Port">
      <soap:address
        location="http://localhost:8080/soap/servlet/rpcrouter"/>
    </port>
  </service>
</definitions>
```

Hello_Service in MEGA



Figure 1: Hello_Service definition in MEGA

Internal architecture of Hello PortType using direct messages

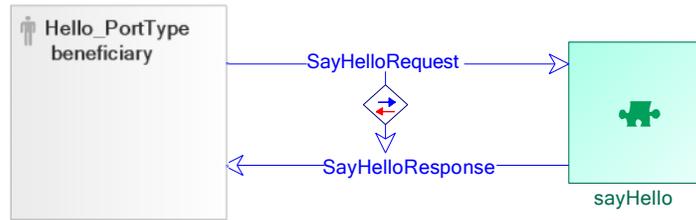


Figure 2: "sayHello" WSDL operation definition using direct messages

Internal architecture of Hello PortType using collaborations

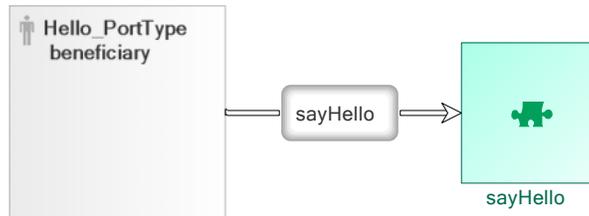


Figure 3: "sayHello" WSDL operation definition using a collaboration

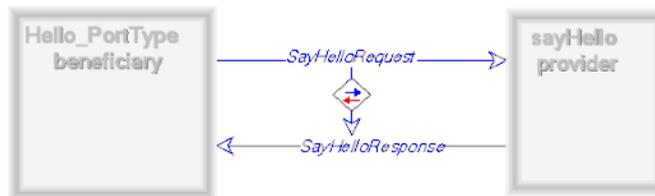


Figure 4: "sayHello" collaboration definition

Mapping Table

The table below contains the WSDL elements that can be imported and their correspondence in **MEGA**.

WSDL element	MEGA object
<service>	Service object + Role that sends/receives messages or that collaborates with the sub services representing its WSDL PortType.
<portType>	Service object + Role that sends/receives messages or that collaborates with the sub services representing WSDL operations.
<portType> of one <service>	"Service within Internal Architecture" link between the service representing the WSDL service and the service representing the WSDL PortType.
<operation>	Service object linked to the service representing the WSDL PortType.
<input>, <output> and <fault> in <operation>	Messages linked by an exchange.