

10 Ways to Build Web Services in .NET ASMX Web Service

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Module Outline

- **Introduction to ASMX**
- **Understand an ASMX Web Service class**
- **Create our first [WebMethod]**
- **View the generated Web Service and Web Method pages**
- **Create a [WebMethod] that takes a primitive parameter**
- **Create a [WebMethod] that takes an object parameter**
- **Add a Service Reference to our Web Service**
- **Call the Web Service through generated proxy classes**
- **Inspect the HTTP Traffic from a Web Service call**
- **Review**

ASMX Web Services

- **One of the first ways in .NET to build a web service**
- **Supports SOAP v1.1 & v1.2, HTTP Post**
- **Relies on WebService and WebMethod attributes**

ASMX Web Services

- **Classes can extend `System.Web.Services.WebService` to get access to `Application`, `Session`, `User`, and `Context` variables**
- **Automatically generates a Web Service Definition Language (WSDL) document**
- **Generates HTML forms to test endpoints that have value-type parameters (on localhost)**

ASMX Web Services

- **No longer actively supported by Microsoft**
 - Uses the old XmlSerializer class, which is no longer being patched
 - Only fixing “critical” bugs in xsd.exe (proxy class generator) and XmlSerializer

Review - Attributes

- **Use [WebMethod] attributes on method definitions to indicate methods can be invoked via Simple Object Access Protocol and HTTP POST**
- **Use [WebService] attributes on class definitions to set the Name, Description, and Namespace in the generated Web Service Definition Language (WSDL) file**

Review – Generated Content

- **ASMX automatically generates HTML pages for web classes and individual web methods**
- **If a web method takes primitive parameters (bool, int, string, etc.) ASMX will generate a test form & HTTP POST request**
- **ASMX generates the Web Service Definition Language document based on the WebService and WebMethod attributes, as well as the method signatures**

Review – Service References

- **You can use Visual Studio to add a Service Reference to a web service**
- **Visual Studio downloads and uses the Web Service Definition Language (WSDL) document to generate proxy classes for the web service**
- **Those proxy classes automatically handle the serialization and deserialization of Simple Object Access Protocol (SOAP) envelopes, as well as the communication over HTTP**
- **You can inspect the data sent and received from a web service by using a traffic inspector like Fiddler2**

Review - Depreciated

- **ASMX is depreciated and should not be used for new development, only for maintenance**
- **If possible, upgrade to WCF or one of the other technologies we'll be discussing in later modules**