# How to: Manage State in Web Services Created Using ASP.NET

**.NET Framework 4**

[Other Versions](javascript:;)

ImageSprite

* [.NET Framework 1.1](http://msdn.microsoft.com/en-us/library/hk34sw2t(d=printer,v=vs.71).aspx)
* [.NET Framework 2.0](http://msdn.microsoft.com/en-us/library/hk34sw2t(d=printer,v=vs.80).aspx)

**This topic is specific to a legacy technology. XML Web services and XML Web service clients should now be created using** [Windows Communication Foundation](http://go.microsoft.com/fwlink/?LinkID=127777) .

Web services have access to the same state management options as other ASP.NET applications when the class that implements the Web service derives from the [WebService](http://msdn.microsoft.com/en-us/library/system.web.services.webservice(v=vs.100).aspx) class. The **WebService** class contains many of the common ASP.NET objects, including the [Session](http://msdn.microsoft.com/en-us/library/system.web.services.webservice.session(v=vs.100).aspx) and [Application](http://msdn.microsoft.com/en-us/library/system.web.services.webservice.application(v=vs.100).aspx) objects.

## To access and store state specific to a particular client session

1. Declare a Web service.

C#

<%@ WebService Language="C#" Class="ServerUsage" %>

VB

<%@ WebService Language="VB" Class="ServerUsage" %>

1. Add a reference to the [System.Web.Services](http://msdn.microsoft.com/en-us/library/system.web.services(v=vs.100).aspx) namespace.

C#

using System.Web.Services;

VB

Imports System.Web.Services

1. Derive the class that implements the Web service from **WebService** .

C#

public class ServerUsage : WebService

VB

Public Class ServerUsage : Inherits WebService

1. Declare a Web service method, setting the [EnableSession](http://msdn.microsoft.com/en-us/library/system.web.services.webmethodattribute.enablesession(v=vs.100).aspx) property of the **WebMethod** attribute to **true**.

C#

[WebMethod(EnableSession=true) ]

public int PerSessionServiceUsage()

VB

<WebMethod(EnableSession:=True) > \_

Public Function PerSessionServiceUsage() As Integer

1. Store state in the **Session**, which specifies a name for the state for later retrieval. In the following example the value 1 is stored in a state variable named MyServiceUsage.

C#

Session["MyServiceUsage"] = 1;

VB

Session("MyServiceUsage") = 1

1. Access the state variable stored in the **Session** .

In the following example, the MyServiceUsage state variable is accessed to increment its value.

C#

Session["MyServiceUsage"] = ((int) Session["MyServiceUsage"]) + 1;

VB

Session("MyServiceUsage") = CInt(Session("MyServiceUsage")) + 1

## To access and store state specific to the Web application hosting the Web service

1. Declare a Web service.

C#

<%@ WebService Language="C#" Class="ServerUsage" %>

VB

<%@ WebService Language="VB" Class="ServerUsage" %>

1. Add a reference to the **System.Web.Services** namespace.

C#

using System.Web.Services;

VB

Imports System.Web.Services

1. Derive the class that implements the Web service from **WebService** .

C#

public class ServerUsage : WebService

VB

Public Class ServerUsage : Inherits WebService

1. Declare a Web service method.

C#

[WebMethod ]

public int PerSessionServiceUsage()

VB

<WebMethod > \_

Public Function PerSessionServiceUsage() As Integer

1. Store state in the **Application**, which specifies a name for the state for later retrieval. In the following example the value 1 is stored in a state variable named appMyServiceUsage.

C#

Application["appMyServiceUsage"] = 1;

VB

Application("appMyServiceUsage") = 1

1. Access the state variable stored in the **Application**.

In the following example, the appMyServiceUsage state variable is accessed to increment its value.

C#

Application["appMyServiceUsage"] =

((int) Application["appMyServiceUsage"]) + 1;

VB

Application("appMyServiceUsage") = \_

CInt(Application("appMyServiceUsage")) + 1

## Example

C#

[VB](http://msdn.microsoft.com/en-us/library/hk34sw2t(d=printer,v=vs.100).aspx?cs-save-lang=1&cs-lang=vb#code-snippet-25)

<%@ WebService Language="C#" Class="ServerUsage" %>

using System.Web.Services;

public class ServerUsage : WebService {

[ WebMethod(Description="Number of times this service has been accessed.") ]

public int ServiceUsage() {

// If the Web service method hasn't been accessed,

// initialize it to 1.

if (Application["appMyServiceUsage"] == null)

{

Application["appMyServiceUsage"] = 1;

}

else

{

// Increment the usage count.

Application["appMyServiceUsage"] = ((int) Application["appMyServiceUsage"]) + 1;

}

return (int) Application["appMyServiceUsage"];

}

[ WebMethod(Description="Number of times a particular client session has accessed this Web service method.",EnableSession=true) ]

public int PerSessionServiceUsage() {

// If the Web service method hasn't been accessed, initialize

// it to 1.

if (Session["MyServiceUsage"] == null)

{

Session["MyServiceUsage"] = 1;

}

else

{

// Increment the usage count.

Session["MyServiceUsage"] = ((int) Session["MyServiceUsage"]) + 1;

}

return (int) Session["MyServiceUsage"];

}

}