System.Net.SocketAddress Class

```
[ILAsm]
.class public SocketAddress extends System.Object

[C#]
public class SocketAddress
```

Assembly Info:

- *Name:* System
- *Public Key:* [00 00 00 00 00 00 00 00 04 00 00 00 00 00 00 00]
- *Version:* 2.0.x.x
- *Attributes:*
  - o CLSCompliantAttribute(true)

Type Attributes:

- DefaultMemberAttribute("Item") [*Note:* This attribute requires the RuntimeInfrastructure library.]

Summary

Provides a socket address stored in a `System.Byte` array.

Inherits From: System.Object

Library: Networking

Thread Safety: All public static members of this type are safe for multithreaded operations. No instance members are guaranteed to be thread safe.

Description

At a minimum, a socket address consists of a member of the `System.Net.Sockets.AddressFamily` enumeration stored in the first two bytes of the array.

SocketAddress(System.Net.Sockets.AddressFamily) Constructor

```
[ILAsm]
public rtspecialname specialname instance void .ctor(valuetype
System.Net.Sockets.AddressFamily family)

[C#]
public SocketAddress(AddressFamily family)
```

Summary

Constructs and initializes a new instance of the System.Net.SocketAddress class.

Parameters

Parameter	Description
family	One of the values of the System.Net.Sockets.AddressFamily enumeration.

Description

This method is equivalent to System.Net.SocketAddress.SocketAddress(*family*, 32).

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SocketAddress(System.Net.Sockets.AddressFamily, System.Int32) Constructor

```
[ILAsm]
public rtspecialname specialname instance void .ctor(valuetype
System.Net.Sockets.AddressFamily family, int32 size)


[C#]
public SocketAddress(AddressFamily family, int size)
```

Summary

Constructs and initializes a new instance of the `System.Net.SocketAddress` class.

Parameters

Parameter	Description
family	One of the values of the `System.Net.Sockets.AddressFamily` enumeration.
size	A `System.Int32` containing the number of bytes to allocate for the `System.Byte` array storing the socket address.

Description

The minimum value for *size* is 2 bytes.

Exceptions

Exception	Condition
System.ArgumentOutOfRangeException	*size* is less than 2.

SocketAddress.Equals(System.Object) Method

```
[ILAsm]
.method public hidebysig virtual bool Equals(object comparand)

[C#]
public override bool Equals(object comparand)
```

Summary

Determines whether the current instance and the specified `System.Object` represent the same socket address.

Parameters

Parameter	Description
comparand	The `System.Object` to compare to the current instance.

Return Value

A `System.Boolean` where `true` indicates *comparand* is an instance of the `System.Net.SocketAddress` class and contains the same data as the current instance; otherwise `false`.

Description

[*Note:* This method overrides `System.Object.Equals`.

]

SocketAddress.GetHashCode() Method

```
[ILAsm]
.method public hidebysig virtual int32 GetHashCode()

[C#]
public override int GetHashCode()
```

Summary

Generates a hash code for the current instance.

Return Value

A `System.Int32` containing the hash code for the current instance.

Description

The algorithm used to generate the hash code is unspecified.

[*Note:* This method overrides `System.Object.GetHashCode`.

]

SocketAddress.ToString() Method

```
[ILAsm]
.method public hidebysig virtual string ToString()

[C#]
public override string ToString()
```

Summary

Returns a `System.String` representation of the value of the current instance.

Return Value

A `System.String` representation of the current instance.

Description

The returned string contains the string representation of the address family, the length of the array holding the socket address, and the contents of the array from the third to the maximum element, output in the following format:

`System.Net.SocketAddress.Family:System.Net.SocketAddress.Size:`{array[2], array[3],…, element[`Size`- 1]}

[*Note:* This method overrides `System.Object.ToString`.

]

Example

The following example writes a socket address to the console.

```C#
using System;
using System.Net;
using System.Net.Sockets;

public class SocketAddressToString{
   public static void Main() {
     Console.WriteLine("This is a minimal SocketAddress.");
     SocketAddress socketAddress = new
            SocketAddress(AddressFamily.InterNetwork);
     Console.WriteLine("{0}", socketAddress.ToString());
   }
}
```

The output is

```
This is a minimal SocketAddress.
```

```
1
2    InterNetwork:32:{0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0}
3

4
```

SocketAddress.Family Property

```
[ILAsm]
.property valuetype System.Net.Sockets.AddressFamily Family { public
hidebysig specialname instance valuetype System.Net.Sockets.AddressFamily
get_Family() }


[C#]
public AddressFamily Family { get; }
```

Summary

Gets the address family which specifies the addressing scheme used to resolve an address.

Property Value

One of the values defined in the `System.Net.Sockets.AddressFamily` enumeration.

Description

This property is read-only.

This property is set by the `System.Net.SocketAddress` constructors and is stored in the first two bytes of the socket address array.

SocketAddress.Item Property

```
[ILAsm]
.property unsigned int8 Item[int32 offset] { public hidebysig specialname
instance unsigned int8 get_Item(int32 offset) public hidebysig specialname
instance void set_Item(int32 offset, unsigned int8 value) }


[C#]
public byte this[int offset] { get; set; }
```

Summary

Gets or sets the element at the specified index of the System.Byte array storing the
socket address.

Parameters

Parameter	Description
offset	A System.Int32 containing the zero-based index of the element to get or set.

Property Value

A System.Byte containing the element at the specified index.

Exceptions

Exception	Condition
System.IndexOutOfRangeException	offset is < 0. -or- offset >= System.Net.SocketAddress.Size.

SocketAddress.Size Property

```
[ILAsm]
.property int32 Size { public hidebysig specialname instance int32
get_Size() }

[C#]
public int Size { get; }
```

Summary

Gets the length of the socket address.

Property Value

A `System.Int32` containing the length of the `System.Byte` array storing the socket address.

Description

This property is read-only.

This property is set by the `System.Net.SocketAddress` constructors.