

Namespace Extism.Sdk

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Class ByteArrayWasmSource

Namespace: [Extism.Sdk](#)

Assembly: Extism.Sdk.dll










Wasm Source represented by raw bytes.

```
public class ByteArrayWasmSource : WasmSource
```

Inheritance

[object](#)  ← [WasmSource](#)  ← ByteArrayWasmSource

Inherited Members

[WasmSource.Name](#) , [WasmSource.Hash](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#) 

Constructors

ByteArrayWasmSource(byte[], string?, string?)

Constructor

```
public ByteArrayWasmSource(byte[] data, string? name, string? hash = null)
```

Parameters

data [byte](#) []

the byte array representing the Wasm code

name [string](#) 

hash [string](#) 

Properties

Data

The byte array representing the Wasm code

```
[JsonPropertyName("data")]  
public byte[] Data { get; }
```

Property Value

[byte](#)[]

Class CurrentPlugin


Namespace: [Extism.Sdk](#)

Assembly: Extism.Sdk.dll








Represents the current plugin. Can only be used within [HostFunction](#)s.

```
public class CurrentPlugin
```

Inheritance

[object](#)  ← CurrentPlugin

Inherited Members

[object.Equals\(object\)](#)  , [object.Equals\(object, object\)](#)  , [object.GetHashCode\(\)](#)  ,
[object.GetType\(\)](#)  , [object.MemberwiseClone\(\)](#)  , [object.ReferenceEquals\(object, object\)](#)  ,
[object.ToString\(\)](#) 

Properties

UserData

An opaque pointer to an object from the host, passed in when a [HostFunction](#) is registered.

```
public nint UserData { get; set; }
```

Property Value

[nint](#) 

Methods

AllocateBlock(long)

Allocate a memory block in the currently running plugin.

```
public long AllocateBlock(long length)
```

Parameters

length [long](#)

Returns

[long](#)

BlockLength(long)

Get the length of an allocated block. NOTE: this should only be called from host functions.

```
public long BlockLength(long offset)
```

Parameters

offset [long](#)

Returns

[long](#)

FreeBlock(long)

Frees a block of memory belonging to the current plugin.

```
public void FreeBlock(long offset)
```

Parameters

offset [long](#)

GetMemory()

Returns an offset to the memory of the currently running plugin. NOTE: this should only be called from host functions.

```
public long GetMemory()
```

Returns

[long](#)

ReadBytes(long)

Returns a span of bytes for a given block.

```
public Span<byte> ReadBytes(long offset)
```

Parameters

offset [long](#)

Returns

[Span](#) <[byte](#)>

ReadString(long)

Reads a string from a memory block using UTF8.

```
public string ReadString(long offset)
```

Parameters

offset [long](#)

Returns

[string](#)

ReadString(long, Encoding)

Reads a string from a memory block.

```
public string ReadString(long offset, Encoding encoding)
```

Parameters

offset [long](#)

encoding [Encoding](#)

Returns

[string](#)

WriteBytes(long, Span<byte>)

Writes a byte array into a block of memory.

```
public void WriteBytes(long offset, Span<byte> bytes)
```

Parameters

offset [long](#)

bytes [Span](#) <[byte](#)>

WriteBytes(Span<byte>)

Writes a byte array into a newly allocated block of memory.

```
public long WriteBytes(Span<byte> bytes)
```

Parameters

bytes [Span](#) <[byte](#)>

Returns

[long](#)

Returns the offset of the allocated block

WriteString(string)

Writes a string into the current plugin memory using UTF-8 encoding and returns the offset of the block.

```
public long WriteString(string value)
```

Parameters

value [string](#)

Returns

[long](#)

WriteString(string, Encoding)

Writes a string into the current plugin memory and returns the offset of the block.

```
public long WriteString(string value, Encoding encoding)
```

Parameters

value [string](#)

encoding [Encoding](#)

Returns

[long](#)

Class ExtismException

Namespace: [Extism.Sdk](#)

Assembly: Extism.Sdk.dll

Represents errors that occur during calling Extism functions.

```
public class ExtismException : Exception, ISerializable
```

Inheritance

[object](#) ← [Exception](#) ← ExtismException

Implements

[ISerializable](#)

Inherited Members

[Exception.GetBaseException\(\)](#) ,
[Exception.GetObjectData\(SerializationInfo, StreamingContext\)](#) , [Exception.GetType\(\)](#) ,
[Exception.ToString\(\)](#) , [Exception.Data](#) , [Exception.HelpLink](#) , [Exception.HResult](#) ,
[Exception.InnerException](#) , [Exception.Message](#) , [Exception.Source](#) ,
[Exception.StackTrace](#) , [Exception.TargetSite](#) , [Exception.SerializeObjectState](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

Constructors

ExtismException()

Initializes a new instance of the [ExtismException](#) class.

```
public ExtismException()
```

ExtismException(string)

Initializes a new instance of the [ExtismException](#) class with a specified error message.

```
public ExtismException(string message)
```

Parameters

message [string](#) 

The message that describes the error .

ExtismException(string, Exception)


Initializes a new instance of the [ExtismException](#) class with a specified error message and a reference to the inner exception that is the cause of this exception.

```
public ExtismException(string message, Exception innerException)
```

Parameters

message [string](#) 

The message that describes the error.

innerException [Exception](#) 

The exception that is the cause of the current exception, or a null reference (Nothing in Visual Basic) if no inner exception is specified.

Delegate ExtismFunction

Namespace: [Extism.Sdk](#)

Assembly: Extism.Sdk.dll

A host function signature.

```
public delegate void ExtismFunction(CurrentPlugin plugin, Span<ExtismVal> inputs,  
Span<ExtismVal> outputs)
```

Parameters

plugin [CurrentPlugin](#)

Plugin Index

inputs [Span](#) <[ExtismVal](#)>

Input parameters

outputs [Span](#) <[ExtismVal](#)>

Output parameters, the host function can change this.

Class HostFunction


Namespace: [Extism.Sdk](#)

Assembly: Extism.Sdk.dll

A function provided by the host that plugins can call.

```
public class HostFunction : IDisposable
```








Inheritance

[object](#)  ← HostFunction

Implements

[IDisposable](#) 

Inherited Members

[object.Equals\(object\)](#)  , [object.Equals\(object, object\)](#)  , [object.GetHashCode\(\)](#)  ,
[object.GetType\(\)](#)  , [object.MemberwiseClone\(\)](#)  , [object.ReferenceEquals\(object, object\)](#)  ,
[object.ToString\(\)](#) 

Constructors

HostFunction(string, Span<ExtismValType>, Span<ExtismValType>, nint, ExtismFunction)

Registers a Host Function.

```
public HostFunction(string functionName, Span<ExtismValType> inputTypes,  
Span<ExtismValType> outputTypes, nint userData, ExtismFunction hostFunction)
```

Parameters

functionName [string](#) 

The literal name of the function, how it would be called from a [Plugin](#).

inputTypes [Span](#)  <[ExtismValType](#)>

The types of the input arguments/parameters the [Plugin](#) caller will provide.

outputTypes [Span](#) <[ExtismValType](#)>

The types of the output returned from the host function to the [Plugin](#).

userData [nint](#)

An opaque pointer to an object from the host, accessible on [CurrentPlugin](#). NOTE: it is the shared responsibility of the host and [Plugin](#) to cast/dereference this value properly.

hostFunction [ExtismFunction](#)

Methods

CheckNotDisposed()

Throw an appropriate exception if the Host Function has been disposed.

```
protected void CheckNotDisposed()
```

Exceptions

[ObjectDisposedException](#)

Dispose()

Frees all resources held by this Host Function.

```
public void Dispose()
```

Dispose(bool)

Frees all resources held by this Host Function.

```
protected virtual void Dispose(bool disposing)
```

Parameters

disposing [bool](#)

~HostFunction()

Destructs the current Host Function and frees all resources used by it.

```
protected ~HostFunction()
```

FromMethod(string, nint, Action<CurrentPlugin>)

Registers a [HostFunction](#) from a method that takes no parameters and returns no values.

```
public static HostFunction FromMethod(string functionName, nint userdata,  
Action<CurrentPlugin> callback)
```

Parameters

functionName [string](#)

The literal name of the function, how it would be called from a [Plugin](#).

userdata [nint](#)

An opaque pointer to an object from the host, accessible on [CurrentPlugin](#). NOTE: it is the shared responsibility of the host and [Plugin](#) to cast/dereference this value properly.

callback [Action](#) <[CurrentPlugin](#)>

The host function implementation.

Returns

[HostFunction](#)

FromMethod<I1>(string, nint, Action<CurrentPlugin, I1>)

Registers a [HostFunction](#) from a method that takes 1 parameter and returns no values. Supported parameter types: [int](#), [uint](#), [long](#), [ulong](#), [float](#), [double](#)

```
public static HostFunction FromMethod<I1>(string functionName, nint userdata,
Action<CurrentPlugin, I1> callback) where I1 : struct
```

Parameters

functionName [string](#)

The literal name of the function, how it would be called from a [Plugin](#).

userdata [nint](#)

An opaque pointer to an object from the host, accessible on [CurrentPlugin](#). NOTE: it is the shared responsibility of the host and [Plugin](#) to cast/dereference this value properly.

callback [Action](#) <[CurrentPlugin](#), I1>

The host function implementation.

Returns

[HostFunction](#)

Type Parameters

I1

Type of first parameter. Supported parameter types: [int](#), [uint](#), [long](#), [ulong](#), [float](#), [double](#)

FromMethod<R>(string, nint, Func<CurrentPlugin, R>)

Registers a [HostFunction](#) from a method that takes no parameters and returns a value. Supported return types: [int](#), [uint](#), [long](#), [ulong](#), [float](#), [double](#)

```
public static HostFunction FromMethod<R>(string functionName, nint userdata,
Func<CurrentPlugin, R> callback) where R : struct
```


Parameters

`functionName` [string](#)

The literal name of the function, how it would be called from a [Plugin](#).

`userdata` [nint](#)

An opaque pointer to an object from the host, accessible on [CurrentPlugin](#). NOTE: it is the shared responsibility of the host and [Plugin](#) to cast/dereference this value properly.

`callback` [Func](#) <[CurrentPlugin](#), R>

The host function implementation.

Returns

[HostFunction](#)

Type Parameters

R

Type of the first parameter. Supported parameter types: [int](#), [uint](#), [long](#), [ulong](#), [float](#), [double](#)

FromMethod<I1, I2>(string, nint, Action<CurrentPlugin, I1, I2>)

Registers a [HostFunction](#) from a method that takes 2 parameters and returns no values. Supported parameter types: [int](#), [uint](#), [long](#), [ulong](#), [float](#), [double](#)

```
public static HostFunction FromMethod<I1, I2>(string functionName, nint userdata,
Action<CurrentPlugin, I1, I2> callback) where I1 : struct where I2 : struct
```

Parameters

`functionName` [string](#)

The literal name of the function, how it would be called from a [Plugin](#).

`userdata` [nint](#)

An opaque pointer to an object from the host, accessible on [CurrentPlugin](#). NOTE: it is the shared responsibility of the host and [Plugin](#) to cast/dereference this value properly.

callback [Action](#) <[CurrentPlugin](#), I1, I2>

The host function implementation.

Returns

[HostFunction](#)

Type Parameters

I1

Type of the first parameter. Supported parameter types: [int](#), [uint](#), [long](#), [ulong](#), [float](#), [double](#)

I2

Type of the second parameter. Supported parameter types: [int](#), [uint](#), [long](#), [ulong](#), [float](#), [double](#)

FromMethod<I1, R>(string, nint, Func<CurrentPlugin, I1, R>)

Registers a [HostFunction](#) from a method that takes 1 parameter and returns a value. Supported return and parameter types: [int](#), [uint](#), [long](#), [ulong](#), [float](#), [double](#)

```
public static HostFunction FromMethod<I1, R>(string functionName, nint userdata,
Func<CurrentPlugin, I1, R> callback) where I1 : struct where R : struct
```

Parameters

functionName [string](#)

The literal name of the function, how it would be called from a [Plugin](#).

userdata [nint](#)

An opaque pointer to an object from the host, accessible on [CurrentPlugin](#). NOTE: it is the shared responsibility of the host and [Plugin](#) to cast/dereference this value properly.

callback [Func](#) <[CurrentPlugin](#), I1, R>

The host function implementation.

Returns

[HostFunction](#)

Type Parameters

I1

Type of the first parameter. Supported parameter types: [int](#), [uint](#), [long](#), [ulong](#), [float](#), [double](#)

R

Type of the first parameter. Supported parameter types: [int](#), [uint](#), [long](#), [ulong](#), [float](#), [double](#)

**FromMethod<I1, I2, I3>(string, nint,
Action<CurrentPlugin, I1, I2, I3>)**

Registers a [HostFunction](#) from a method that takes 3 parameters and returns no values. Supported parameter types: [int](#), [uint](#), [long](#), [ulong](#), [float](#), [double](#)

```
public static HostFunction FromMethod<I1, I2, I3>(string functionName, nint
userdata, Action<CurrentPlugin, I1, I2, I3> callback) where I1 : struct where I2 :
struct where I3 : struct
```

Parameters

functionName [string](#)

The literal name of the function, how it would be called from a [Plugin](#).

userdata [nint](#)

An opaque pointer to an object from the host, accessible on [CurrentPlugin](#). NOTE: it is the shared responsibility of the host and [Plugin](#) to cast/dereference this value properly.

callback [Action](#) <[CurrentPlugin](#), I1, I2, I3>

The host function implementation.

Returns

[HostFunction](#)

Type Parameters

I1

Type of the first parameter. Supported parameter types: [int](#), [uint](#), [long](#), [ulong](#), [float](#), [double](#)

I2

Type of the second parameter. Supported parameter types: [int](#), [uint](#), [long](#), [ulong](#), [float](#), [double](#)

I3

Type of the third parameter. Supported parameter types: [int](#), [uint](#), [long](#), [ulong](#), [float](#), [double](#)

FromMethod<I1, I2, R>(string, nint, Func<CurrentPlugin, I1, I2, R>)

Registers a [HostFunction](#) from a method that takes 2 parameter an returns a value. Supported return and parameter types: [int](#), [uint](#), [long](#), [ulong](#), [float](#), [double](#)

```
public static HostFunction FromMethod<I1, I2, R>(string functionName, nint userdata,
Func<CurrentPlugin, I1, I2, R> callback) where I1 : struct where I2 : struct where R
: struct
```

Parameters

functionName [string](#)

The literal name of the function, how it would be called from a [Plugin](#).

userdata [nint](#)

An opaque pointer to an object from the host, accessible on [CurrentPlugin](#). NOTE: it is the shared responsibility of the host and [Plugin](#) to cast/dereference this value properly.

callback [Func](#) <[CurrentPlugin](#), I1, I2, R>

The host function implementation.

Returns

[HostFunction](#)

Type Parameters

I1

Type of the first parameter. Supported parameter types: [int](#), [uint](#), [long](#), [ulong](#), [float](#), [double](#)

I2

Type of the second parameter. Supported parameter types: [int](#), [uint](#), [long](#), [ulong](#), [float](#), [double](#)

R

Type of the first parameter. Supported parameter types: [int](#), [uint](#), [long](#), [ulong](#), [float](#), [double](#)

FromMethod<I1, I2, I3, R>(string, nint, Func<CurrentPlugin, I1, I2, I3, R>)

Registers a [HostFunction](#) from a method that takes 3 parameter an returns a value. Supported return and parameter types: [int](#), [uint](#), [long](#), [ulong](#), [float](#), [double](#)

```
public static HostFunction FromMethod<I1, I2, I3, R>(string functionName, nint
userdata, Func<CurrentPlugin, I1, I2, I3, R> callback) where I1 : struct where I2 :
struct where I3 : struct where R : struct
```

Parameters

functionName [string](#)

The literal name of the function, how it would be called from a [Plugin](#).

`userdata` [nint](#)

An opaque pointer to an object from the host, accessible on [CurrentPlugin](#). NOTE: it is the shared responsibility of the host and [Plugin](#) to cast/dereference this value properly.

`callback` [Func](#) <[CurrentPlugin](#), I1, I2, I3, R>

The host function implementation.

Returns

[HostFunction](#)

Type Parameters

I1

Type of the first parameter. Supported parameter types: [int](#), [uint](#), [long](#), [ulong](#), [float](#), [double](#)

I2

Type of the second parameter. Supported parameter types: [int](#), [uint](#), [long](#), [ulong](#), [float](#), [double](#)

I3

Type of the third parameter. Supported parameter types: [int](#), [uint](#), [long](#), [ulong](#), [float](#), [double](#)

R

Type of the first parameter. Supported parameter types: [int](#), [uint](#), [long](#), [ulong](#), [float](#), [double](#)

SetNamespace(string)

Sets the function namespace. By default it's set to `env`.

```
public void SetNamespace(string ns)
```

Parameters

ns [string](#)

WithNamespace(string)

Sets the function namespace. By default it's set to `extism:host/user`.

```
public HostFunction WithNamespace(string ns)
```

Parameters

ns [string](#)

Returns

[HostFunction](#)

Enum HttpMethod

Namespace: [Extism.Sdk](#)

Assembly: Extism.Sdk.dll

HTTP defines a set of request methods to indicate the desired action to be performed for a given resource.

```
public enum HttpMethod
```

Fields

CONNECT = 5

The CONNECT method establishes a tunnel to the server identified by the target resource.

DELETE = 4

The DELETE method deletes the specified resource.

GET = 0

The GET method requests a representation of the specified resource. Requests using GET should only retrieve data.

HEAD = 1

The HEAD method asks for a response identical to a GET request, but without the response body.

OPTIONS = 6

The OPTIONS method describes the communication options for the target resource.

PATCH = 8

The PATCH method applies partial modifications to a resource.

POST = 2

The POST method submits an entity to the specified resource, often causing a change in state or side effects on the server.

PUT = 3

The PUT method replaces all current representations of the target resource with the request payload.

TRACE = 7

The TRACE method performs a message loop-back test along the path to the target resource.

Enum LogLevel

Namespace: [Extism.Sdk](#)

Assembly: Extism.Sdk.dll

Extism Log Levels

```
public enum LogLevel
```

Fields

Debug = 4

Designates lower priority information.

Error = 1

Designates very serious errors.

Info = 3

Designates useful information.

Trace = 5

Designates very low priority, often extremely verbose, information.

Warn = 2

Designates hazardous situations.

Delegate LoggingSink

Namespace: [Extism.Sdk](#)

Assembly: Extism.Sdk.dll

Custom logging callback.

```
public delegate void LoggingSink(string line)
```

Parameters

line [string](#)

Class Manifest

Namespace: [Extism.Sdk](#)

Assembly: Extism.Sdk.dll








The manifest is a description of your plugin and some of the runtime constraints to apply to it. You can think of it as a blueprint to build your plugin.

```
public class Manifest
```

Inheritance

[object](#)  ← Manifest

Inherited Members

[object.Equals\(object\)](#)  , [object.Equals\(object, object\)](#)  , [object.GetHashCode\(\)](#)  ,
[object.GetType\(\)](#)  , [object.MemberwiseClone\(\)](#)  , [object.ReferenceEquals\(object, object\)](#)  ,
[object.ToString\(\)](#) 

Constructors

Manifest()

Create an empty manifest.

```
public Manifest()
```

Manifest(params WasmSource[])

Create a manifest from one or more Wasm sources.

```
public Manifest(params WasmSource[] sources)
```

Parameters

sources [WasmSource](#)[]

Properties

AllowedHosts

List of host names the plugins can access. Example:

```
AllowedHosts = new List<string> {  
    "www.example.com",  
    "api.*.com",  
    "example.*",  
}  
  
[JsonPropertyName("allowed_hosts")]  
public IList<string> AllowedHosts { get; set; }
```

Property Value

[IList](#) <[string](#)>

AllowedPaths

List of directories that can be accessed by the plugins. Examples:

```
AllowedPaths = new Dictionary<string, string>  
{  
    { "/usr/plugins/1/data", "/data" }, // src, dest  
    { "d:/plugins/1/data", "/data" }    // src, dest  
};  
  
[JsonPropertyName("allowed_paths")]  
public IDictionary<string, string> AllowedPaths { get; set; }
```

Property Value

[IDictionary](#) <[string](#), [string](#)>

Config

Configurations available to the plugins. Examples:

```
Config = new Dictionary<string, string>
{
    { "userId", "55" }, // key, value
    { "mySecret", "super-secret-key" } // key, value
};

[JsonPropertyName("config")]
public IDictionary<string, string> Config { get; set; }
```

Property Value

[IDictionary](#) <[string](#), [string](#)>

MemoryOptions

Configures memory for the Wasm runtime. Memory is described in units of pages (64KB) and represent contiguous chunks of addressable memory.

```
[JsonPropertyName("memory")]
public MemoryOptions? MemoryOptions { get; set; }
```

Property Value

[MemoryOptions](#)

Sources

List of Wasm sources. See [PathWasmSource](#) and [ByteArrayWasmSource](#).

```
[JsonPropertyName("wasm")]
public IList<WasmSource> Sources { get; set; }
```

Property Value

[IList](#) <[WasmSource](#)>

Timeout

Plugin call timeout.

```
[JsonPropertyName("timeout_ms")]  
[JsonConverter(typeof(TimeSpanMillisecondsConverter))]  
public TimeSpan? Timeout { get; set; }
```

Property Value

[TimeSpan](#)[?]

Class MemoryOptions

Namespace: [Extism.Sdk](#)

Assembly: Extism.Sdk.dll








Configures memory for the Wasm runtime. Memory is described in units of pages (64KB) and represent contiguous chunks of addressable memory.

```
public class MemoryOptions
```

Inheritance

[object](#)  ← MemoryOptions

Inherited Members

[object.Equals\(object\)](#)  , [object.Equals\(object, object\)](#)  , [object.GetHashCode\(\)](#)  , [object.GetType\(\)](#)  , [object.MemberwiseClone\(\)](#)  , [object.ReferenceEquals\(object, object\)](#)  , [object.ToString\(\)](#) 

Properties

MaxHttpResponseBytes

Max number of bytes allowed in an HTTP response when using `extism_http_request`.

```
[JsonPropertyName("max_http_response_bytes")]  
public int MaxHttpResponseBytes { get; set; }
```

Property Value

[int](#) 

MaxPages

Max number of pages. Each page is 64KB.

```
[JsonPropertyName("max_pages")]
```



```
public int MaxPages { get; set; }
```

Property Value

[int](#)

MaxVarBytes

Max number of bytes allowed in the Extism var store

```
[JsonPropertyName("max_var_bytes")]  
public int MaxVarBytes { get; set; }
```

Property Value

[int](#)

Class PathWasmSource

Namespace: [Extism.Sdk](#)

Assembly: Extism.Sdk.dll








Wasm Source represented by a file referenced by a path.

```
public class PathWasmSource : WasmSource
```

Inheritance

[object](#)  ← [WasmSource](#)  ← PathWasmSource

Inherited Members

[WasmSource.Name](#) , [WasmSource.Hash](#) , [object.Equals\(object\)](#)  ,
[object.Equals\(object, object\)](#)  , [object.GetHashCode\(\)](#)  , [object.GetType\(\)](#)  ,
[object.MemberwiseClone\(\)](#)  , [object.ReferenceEquals\(object, object\)](#)  , [object.ToString\(\)](#) 

Constructors

PathWasmSource(string, string?, string?)

Constructor

```
public PathWasmSource(string path, string? name = null, string? hash = null)
```

Parameters

path [string](#) 

path to wasm plugin.

name [string](#) 

hash [string](#) 

Properties

Path

Path to wasm plugin.

```
[JsonPropertyName("path")]  
public string Path { get; set; }
```

Property Value

[string](#)

Class Plugin

Namespace: [Extism.Sdk](#)

Assembly: Extism.Sdk.dll

Represents a WASM Extism plugin.

```
public class Plugin : IDisposable
```

Inheritance

[object](#) ← Plugin

Implements

[IDisposable](#)

Inherited Members

[object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#), [object.GetType\(\)](#), [object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#), [object.ToString\(\)](#)

Constructors

Plugin(Manifest, HostFunction[], bool)

Create a plugin from a Manifest.

```
public Plugin(Manifest manifest, HostFunction[] functions, bool withWasi)
```

Parameters

manifest [Manifest](#)

functions [HostFunction](#)[]

withWasi [bool](#)

Plugin(ReadOnlySpan<byte>, HostFunction[], bool)

Create and load a plugin from a byte array.

```
public Plugin(ReadOnlySpan<byte> wasm, HostFunction[] functions, bool withWasi)
```

Parameters

wasm [ReadOnlySpan](#) [<byte>](#)

A WASM module (wat or wasm) or a JSON encoded manifest.

functions [HostFunction](#)[]

List of host functions expected by the plugin.

withWasi [bool](#)

Enable/Disable WASI.

Methods

Call(string, ReadOnlySpan<byte>, CancellationToken?)

Calls a function in the current plugin and returns the output as a byte buffer.

```
public ReadOnlySpan<byte> Call(string functionName, ReadOnlySpan<byte> input,  
CancellationToken? cancellationToken = null)
```

Parameters

functionName [string](#)

Name of the function in the plugin to invoke.

input [ReadOnlySpan](#) [<byte>](#)

A buffer to provide as input to the function.

cancellationToken [CancellationToken](#)?

CancellationToken used for cancelling the Extism call.

Returns

[ReadOnlySpan](#) [<byte>](#)

The output of the function call

Exceptions

[ExtismException](#)

Call(string, string, CancellationToken?)

Calls a function in the current plugin and returns the output as a UTF8 encoded string.

```
public string Call(string functionName, string input, CancellationToken?
cancellationToken = null)
```

Parameters

`functionName` [string](#)

Name of the function in the plugin to invoke.

`input` [string](#)

A string that will be UTF8 encoded and passed to the plugin.

`cancellationToken` [CancellationToken](#)?

CancellationToken used for cancelling the Extism call.

Returns

[string](#)

The output of the function as a UTF8 encoded string

Call<TOutput>(string, string, JsonSerializerOptions?, CancellationToken?)

Calls a function on the plugin and deserializes the output as UTF8 encoded JSON.

```
public TOutput? Call<TOutput>(string functionName, string input,  
    JsonSerializerOptions? serializerOptions = null, CancellationToken?  
    cancellationToken = null)
```

Parameters

functionName [string](#)

Name of the function in the plugin to invoke.

input [string](#)

Function input.

serializerOptions [JsonSerializerOptions](#)

JSON serialization options used for serialization/derserialization.

cancellationToken [CancellationToken](#)?

CancellationToken used for cancelling the Extism call.

Returns

TOutput

Type Parameters

TOutput

Type of the output payload returned by the function.

Call<TOutput>(string, string, JsonTypeInfo<TOutput?>, CancellationToken?)

Calls a function on the plugin with a payload. The payload is serialized into JSON and encoded in UTF8.

```
public TOutput? Call<TOutput>(string functionName, string input,  
    JsonTypeInfo<TOutput?> outputJsonInfo, CancellationToken? cancellationToken = null)
```

Parameters

`functionName` [string](#)

Name of the function in the plugin to invoke.

`input` [string](#)

Function input.

`outputJsonInfo` [JsonTypeInfo](#) <TOutput>

Metadata about output type.

`cancellationToken` [CancellationToken](#)?

CancellationToken used for cancelling the Extism call.

Returns

TOutput

Type Parameters

TOutput

Type of the output payload returned by the function.

Call<TInput, TOutput>(string, TInput, JsonSerializerOptions?, CancellationToken?)

Calls a function on the plugin with a payload. The payload is serialized into JSON and encoded in UTF8.

```
public TOutput? Call<TInput, TOutput>(string functionName, TInput input,
    JsonSerializerOptions? serializerOptions = null, CancellationToken?
    cancellationToken = null)
```

Parameters

`functionName` [string](#)

Name of the function in the plugin to invoke.

input TInput

An object that will be serialized into JSON and passed into the function as a UTF8 encoded string.

serializerOptions [JsonSerializerOptions](#)↗

JSON serialization options used for serialization/derserialization

cancellationToken [CancellationToken](#)↗?

CancellationToken used for cancelling the Extism call.

Returns

TOutput

Type Parameters

TInput

Type of the input payload.

TOutput

Type of the output payload returned by the function.

Call<TInput, TOutput>(string, TInput, JsonTypeInfo<TInput>, JsonTypeInfo<TOutput?>, CancellationToken?)

Calls a function on the plugin with a payload. The payload is serialized into JSON and encoded in UTF8.

```
public TOutput? Call<TInput, TOutput>(string functionName, TInput input,
    JsonTypeInfo<TInput> inputJsonInfo, JsonTypeInfo<TOutput?> outputJsonInfo,
    CancellationToken? cancellationToken = null)
```

Parameters

functionName [string](#)

Name of the function in the plugin to invoke.

input **TInput**

An object that will be serialized into JSON and passed into the function as a UTF8 encoded string.

inputJsonInfo [JsonTypeInfo](#) <TInput>

Metadata about input type.

outputJsonInfo [JsonTypeInfo](#) <TOutput>

Metadata about output type.

cancellationToken [CancellationToken](#)?

Cancellation token used for cancelling the Extism call.

Returns

TOutput

Type Parameters

TInput

Type of the input payload.

TOutput

Type of the output payload returned by the function.

CheckNotDisposed()

Throw an appropriate exception if the plugin has been disposed.

```
protected void CheckNotDisposed()
```

Exceptions

ConfigureCustomLogging(LogLevel)

Enable a custom log handler, this will buffer logs until [DrainCustomLogs\(LoggingSink\)](#) is called.

```
public static void ConfigureCustomLogging(LogLevel level)
```

Parameters

level [LogLevel](#)

ConfigureFileLogging(string, LogLevel)

Set log file and level

```
public static void ConfigureFileLogging(string path, LogLevel level)
```

Parameters

path [string](#)

Log file path

level [LogLevel](#)

Minimum log level

Dispose()

Frees all resources held by this Plugin.

```
public void Dispose()
```

Dispose(bool)

Frees all resources held by this Plugin.

```
protected virtual void Dispose(bool disposing)
```

Parameters

disposing [bool](#)

DrainCustomLogs(LoggingSink)

Calls the provided callback function for each buffered log line. This only needed when [ConfigureCustomLogging\(LogLevel\)](#) is used.

```
public static void DrainCustomLogs(LoggingSink callback)
```

Parameters

callback [LoggingSink](#)

ExtismVersion()

Get Extism Runtime version.

```
public static string ExtismVersion()
```

Returns

[string](#)

~Plugin()

Destructs the current Plugin and frees all resources used by it.

```
protected ~Plugin()
```

FunctionExists(string)

Checks if a specific function exists in the current plugin.

```
public bool FunctionExists(string name)
```

Parameters

name [string](#)

Returns

[bool](#)

UpdateConfig(Dictionary<string, string>, JsonSerializerOptions)

Update plugin config values, this will merge with the existing values.

```
public bool UpdateConfig(Dictionary<string, string> value,  
    JsonSerializerOptions serializerOptions)
```

Parameters

value [Dictionary](#) <[string](#), [string](#)>

serializerOptions [JsonSerializerOptions](#)

Returns

[bool](#)

UpdateConfig(ReadOnlySpan<byte>)

Update plugin config values, this will merge with the existing values.

```
public bool UpdateConfig(ReadOnlySpan<byte> json)
```

Parameters

`json` [ReadOnlySpan](#) `<byte>`

The configuration JSON encoded in UTF8.

Returns

[bool](#)

Class UrlWasmSource

Namespace: [Extism.Sdk](#)

Assembly: Extism.Sdk.dll








Wasm Source represented by a file referenced by a path.

```
public class UrlWasmSource : WasmSource
```

Inheritance

[object](#)  ← [WasmSource](#)  ← UrlWasmSource

Inherited Members

[WasmSource.Name](#) , [WasmSource.Hash](#) , [object.Equals\(object\)](#)  ,
[object.Equals\(object, object\)](#)  , [object.GetHashCode\(\)](#)  , [object.GetType\(\)](#)  ,
[object.MemberwiseClone\(\)](#)  , [object.ReferenceEquals\(object, object\)](#)  , [object.ToString\(\)](#) 

Constructors

UrlWasmSource(string, string?, string?)

Constructor

```
public UrlWasmSource(string url, string? name = null, string? hash = null)
```

Parameters

url [string](#) 

uri to wasm plugin.

name [string](#) 

hash [string](#) 

UrlWasmSource(Uri, string?, string?)

Constructor

```
public UrlWasmSource(Uri url, string? name = null, string? hash = null)
```

Parameters

url [Uri](#)

uri to wasm plugin.

name [string](#)

hash [string](#)

Properties

Headers

HTTP headers

```
[JsonPropertyName("headers")]  
public Dictionary<string, string> Headers { get; set; }
```

Property Value

[Dictionary](#) <[string](#), [string](#)>

Method

HTTP Method

```
[JsonPropertyName("method")]  
public HttpMethod? Method { get; set; }
```

Property Value

[HttpMethod?](#)

Url

Uri to wasm plugin.

```
[JsonPropertyName("url")]  
public Uri Url { get; set; }
```

Property Value

[Uri](#)

Class WasmSource

Namespace: [Extism.Sdk](#)

Assembly: Extism.Sdk.dll

A named Wasm source.

```
public abstract class WasmSource
```








Inheritance

[object](#)  ← WasmSource

Derived

[ByteArrayWasmSource](#), [PathWasmSource](#), [UrlWasmSource](#)

Inherited Members

[object.Equals\(object\)](#)  , [object.Equals\(object, object\)](#)  , [object.GetHashCode\(\)](#)  ,
[object.GetType\(\)](#)  , [object.MemberwiseClone\(\)](#)  , [object.ReferenceEquals\(object, object\)](#)  ,
[object.ToString\(\)](#) 

Properties

Hash

Hash of the WASM source

```
[JsonPropertyName("hash")]  
public string? Hash { get; set; }
```

Property Value

[string](#) 

Name

Logical name of the Wasm source

```
[JsonPropertyName("name")]  
public string? Name { get; set; }
```

Property Value

[string](#)

Namespace Extism.Sdk.Native

Structs

[ExtismVal](#)

`ExtismVal` holds the type and value of a function argument/return

[ExtismValUnion](#)

A union type for host function argument/return values.

Enums

[ExtismValType](#)

Represents Wasm data types that Extism can understand

Struct ExtismVal

Namespace: [Extism.Sdk.Native](#)

Assembly: Extism.Sdk.dll

ExtismVal holds the type and value of a function argument/return

```
public struct ExtismVal
```

Inherited Members

[ValueType.Equals\(object\)](#)[↗] , [ValueType.GetHashCode\(\)](#)[↗] , [ValueType.ToString\(\)](#)[↗] ,
[object.Equals\(object, object\)](#)[↗] , [object.GetType\(\)](#)[↗] ,
[object.ReferenceEquals\(object, object\)](#)[↗]

Fields

t

The type for the argument

```
public ExtismValType t
```

Field Value

[ExtismValType](#)

v

The value for the argument

```
public ExtismValUnion v
```

Field Value

[ExtismValUnion](#)

Enum ExtismValType

Namespace: [Extism.Sdk.Native](#)

Assembly: Extism.Sdk.dll

Represents Wasm data types that Extism can understand

```
public enum ExtismValType
```

Fields

ExternRef = 6

A reference to opaque data in the Wasm instance.

F32 = 2

Floating point 32 bit integer. Equivalent of [float](#)[↗]

F64 = 3

Floating point 64 bit integer. Equivalent of [double](#)[↗]

FuncRef = 5

A reference to opaque data in the Wasm instance.

I32 = 0

Signed 32 bit integer. Equivalent of [int](#)[↗] or [uint](#)[↗]

I64 = 1

Signed 64 bit integer. Equivalent of [long](#)[↗] or [long](#)[↗]

PTR = 1

A wrapper around [I64](#) to specify arguments that are pointers to memory blocks

V128 = 4

A 128 bit number.

Struct ExtismValUnion







Namespace: [Extism.Sdk.Native](#)

Assembly: Extism.Sdk.dll

A union type for host function argument/return values.

```
public struct ExtismValUnion
```

Inherited Members

[ValueType.Equals\(object\)](#) , [ValueType.GetHashCode\(\)](#) , [ValueType.ToString\(\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#)

Fields

f32

Set this for 32 bit floats

```
public float f32
```

Field Value

[float](#)

f64

Set this for 64 bit floats

```
public double f64
```

Field Value

[double](#)

i32

Set this for 32 bit integers

```
public int i32
```

Field Value

[int](#)

i64

Set this for 64 bit integers

```
public long i64
```

Field Value

[long](#)

ptr

Set this for 64 bit integers

```
public long ptr
```

Field Value

[long](#)