

Package: wasmer (via r-universe)

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Title WebAssembly Runtime for 'R' using 'Wasmer'

Version 0.0.0.9000

Description 'R' bindings for the 'Wasmer'

<<https://github.com/wasmerio/wasmer/>> WebAssembly runtime. This package allows you to compile, instantiate, and execute WebAssembly modules from 'R', providing a bridge between 'R' and WebAssembly for high-performance computing and interoperability.

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wasmer_call_function_ext

Call WASM function

Description

Call an exported function from a WASM instance.

Usage

wasmer_call_function_ext(ptr, instance_name, function_name, args)

Arguments

ptr	External pointer to WasmerRuntime.
instance_name	Name of the instance.
function_name	Name of the function to call.
args	Arguments as R list.

Details

Call an exported function from a WASM instance

Value

List with success flag and result or error

See Also

[wasmer_call_function_safe_ext\(\)](#), [wasmer_host_function_example_ext\(\)](#), [wasmer_math_example_ext\(\)](#), [wasmer_hello_world_example_ext\(\)](#)

Other function calling: [wasmer_call_function_safe_ext\(\)](#), [wasmer_hello_world_example_ext\(\)](#), [wasmer_host_function_example_ext\(\)](#), [wasmer_math_example_ext\(\)](#)

Examples

```
## Not run:
wasmer_call_function_ext(ptr, "inst1", "add", list(1, 2))

## End(Not run)
```

wasmer_call_function_safe_ext
Call WASM function (type safe)

Description

Call an exported WASM function with type safety and conversion.

Usage

```
wasmer_call_function_safe_ext(ptr, instance_name, function_name, args)
```

Arguments

ptr	External pointer to WasmerRuntime.
instance_name	String name of the instance.
function_name	String name of the function to call.
args	List of arguments with proper type conversion.

Details

Advanced function calling with type safety

Value

List with success flag and result or error

See Also

[wasmer_call_function_ext\(\)](#), [wasmer_host_function_example_ext\(\)](#), [wasmer_math_example_ext\(\)](#), [wasmer_hello_world_example_ext\(\)](#)

Other function calling: [wasmer_call_function_ext\(\)](#), [wasmer_hello_world_example_ext\(\)](#), [wasmer_host_function_example_ext\(\)](#), [wasmer_math_example_ext\(\)](#)

Examples

```
## Not run:  
wasmer_call_function_safe_ext(ptr, "inst1", "add", list(1, 2))  
  
## End(Not run)
```

wasmer_compile_wasm_ext

Compile WASM binary

Description

Compile a WebAssembly binary and add it to the runtime.

Usage

```
wasmer_compile_wasm_ext(ptr, wasm_bytes, module_name)
```

Arguments

ptr	External pointer to WasmerRuntime.
wasm_bytes	WASM binary as R raw vector.
module_name	Name to register the module under.

Details

Compile a WASM binary and add it to the runtime

Value

Status message

See Also

[wasmer_compile_wat_ext\(\)](#), [wasmer_wat_to_wasm_ext\(\)](#)

Other module compilation: [wasmer_compile_wat_ext\(\)](#), [wasmer_wat_to_wasm_ext\(\)](#)

Examples

```
## Not run:
wasmer_compile_wasm_ext(ptr, wasm_bytes, "mod1")

## End(Not run)
```

wasmer_compile_wat_ext

Compile WAT module

Description

Compile a WebAssembly Text (WAT) module and add it to the runtime.

Usage

```
wasmer_compile_wat_ext(ptr, wat_code, module_name)
```

Arguments

ptr	External pointer to WasmerRuntime.
wat_code	WAT code as a string.
module_name	Name to register the module under.

Details

Compile a WAT (WebAssembly Text) module and add it to the runtime

Value

Status message

See Also

[wasmer_compile_wasm_ext\(\)](#), [wasmer_wat_to_wasm_ext\(\)](#)

Other module compilation: [wasmer_compile_wasm_ext\(\)](#), [wasmer_wat_to_wasm_ext\(\)](#)

Examples

```
## Not run:
wasmer_compile_wat_ext(ptr, wat_code, "mod1")

## End(Not run)
```

 wasmer_function_new_ext

Create dynamic R host function

Description

Create a Wasmer host function from an R function with dynamic signature.

Usage

```
wasmer_function_new_ext(ptr, rfun, arg_types, ret_types, `name`)
```

Arguments

<code>ptr</code>	External pointer to WasmerRuntime.
<code>rfun</code>	R function object.
<code>arg_types</code>	Character vector of argument types (e.g. <code>c("i32", "f64")</code>).
<code>ret_types</code>	Character vector of return types (e.g. <code>c("i32")</code>).
<code>name</code>	Character string for registry name.

Details

Create a Wasmer host function from an R function with dynamic signature

Value

External pointer to Function

See Also

[wasmer_register_r_function_ext\(\)](#), [wasmer_function_new_i32_to_i32\(\)](#), [wasmer_function_new_i32_i32_to_i32\(\)](#), [wasmer_function_new_f64_f64_to_f64\(\)](#), [wasmer_function_new_f64_to_f64\(\)](#), [wasmer_function_new_i32_to_void\(\)](#), [wasmer_function_new_void_to_i32\(\)](#)

Other host function registration: [wasmer_function_new_f64_f64_to_f64\(\)](#), [wasmer_function_new_f64_to_f64\(\)](#), [wasmer_function_new_i32_i32_to_i32\(\)](#), [wasmer_function_new_i32_to_i32\(\)](#), [wasmer_function_new_i32_to_void\(\)](#), [wasmer_function_new_void_to_i32\(\)](#), [wasmer_register_r_function_ext\(\)](#)

Examples

```
## Not run:
wasmer_function_new_ext(ptr, function(x) x, c("i32"), c("i32"), "myfun")

## End(Not run)
```

```
wasmer_function_new_f64_f64_to_f64
    Create host function ((f64, f64) -> f64)
```

Description

Create a WASM host function that takes two f64 arguments and returns an f64, using an R function as the implementation.

Usage

```
wasmer_function_new_f64_f64_to_f64(ptr, rfun)
```

Details

Create a WASM host function with signature (f64, f64) -> f64

See Also

```
wasmer_register_r_function_ext(), wasmer_function_new_ext(), wasmer_function_new_i32_to_i32(),
wasmer_function_new_i32_i32_to_i32(), wasmer_function_new_f64_to_f64(), wasmer_function_new_i32_to_vo
wasmer_function_new_void_to_i32()
```

Other host function registration: [wasmer_function_new_ext\(\)](#), [wasmer_function_new_f64_to_f64\(\)](#), [wasmer_function_new_i32_i32_to_i32\(\)](#), [wasmer_function_new_i32_to_i32\(\)](#), [wasmer_function_new_i32_to_vo](#), [wasmer_function_new_void_to_i32\(\)](#), [wasmer_register_r_function_ext\(\)](#)

Examples

```
## Not run:
wasmer_function_new_f64_f64_to_f64(ptr, function(x, y) x * y)

## End(Not run)
```

```
wasmer_function_new_f64_to_f64
    Create host function (f64 -> f64)
```

Description

Create a WASM host function that takes an f64 and returns an f64, using an R function as the implementation.

Usage

```
wasmer_function_new_f64_to_f64(ptr, rfun)
```

Details

Create a WASM host function with signature f64 -> f64

See Also

[wasmer_register_r_function_ext\(\)](#), [wasmer_function_new_ext\(\)](#), [wasmer_function_new_i32_to_i32\(\)](#), [wasmer_function_new_i32_i32_to_i32\(\)](#), [wasmer_function_new_f64_f64_to_f64\(\)](#), [wasmer_function_new_i32_to_void\(\)](#), [wasmer_function_new_void_to_i32\(\)](#)

Other host function registration: [wasmer_function_new_ext\(\)](#), [wasmer_function_new_f64_f64_to_f64\(\)](#), [wasmer_function_new_i32_i32_to_i32\(\)](#), [wasmer_function_new_i32_to_i32\(\)](#), [wasmer_function_new_i32_to_void\(\)](#), [wasmer_function_new_void_to_i32\(\)](#), [wasmer_register_r_function_ext\(\)](#)

Examples

```
## Not run:
wasmer_function_new_f64_to_f64(ptr, function(x) sqrt(x))

## End(Not run)
```

```
wasmer_function_new_i32_i32_to_i32
      Create host function ((i32, i32) -> i32)
```

Description

Create a WASM host function that takes two i32 arguments and returns an i32, using an R function as the implementation.

Usage

```
wasmer_function_new_i32_i32_to_i32(ptr, rfun)
```

Details

Create a WASM host function with signature (i32, i32) -> i32

See Also

[wasmer_register_r_function_ext\(\)](#), [wasmer_function_new_ext\(\)](#), [wasmer_function_new_i32_to_i32\(\)](#), [wasmer_function_new_f64_f64_to_f64\(\)](#), [wasmer_function_new_f64_to_f64\(\)](#), [wasmer_function_new_i32_to_void\(\)](#), [wasmer_function_new_void_to_i32\(\)](#)

Other host function registration: [wasmer_function_new_ext\(\)](#), [wasmer_function_new_f64_f64_to_f64\(\)](#), [wasmer_function_new_f64_to_f64\(\)](#), [wasmer_function_new_i32_to_i32\(\)](#), [wasmer_function_new_i32_to_void\(\)](#), [wasmer_function_new_void_to_i32\(\)](#), [wasmer_register_r_function_ext\(\)](#)

Examples

```
## Not run:  
wasmer_function_new_i32_i32_to_i32(ptr, function(x, y) x + y)  
  
## End(Not run)
```

```
wasmer_function_new_i32_to_i32  
    Create host function (i32 -> i32)
```

Description

Create a WASM host function that takes an i32 and returns an i32, using an R function as the implementation.

Usage

```
wasmer_function_new_i32_to_i32(ptr, rfun)
```

Details

Create a WASM host function with signature i32 -> i32

See Also

[wasmer_register_r_function_ext\(\)](#), [wasmer_function_new_ext\(\)](#), [wasmer_function_new_i32_i32_to_i32\(\)](#), [wasmer_function_new_f64_f64_to_f64\(\)](#), [wasmer_function_new_f64_to_f64\(\)](#), [wasmer_function_new_i32_to_void\(\)](#), [wasmer_function_new_void_to_i32\(\)](#)

Other host function registration: [wasmer_function_new_ext\(\)](#), [wasmer_function_new_f64_f64_to_f64\(\)](#), [wasmer_function_new_f64_to_f64\(\)](#), [wasmer_function_new_i32_i32_to_i32\(\)](#), [wasmer_function_new_i32_to_void\(\)](#), [wasmer_function_new_void_to_i32\(\)](#), [wasmer_register_r_function_ext\(\)](#)

Examples

```
## Not run:  
wasmer_function_new_i32_to_i32(ptr, function(x) x)  
  
## End(Not run)
```

```
wasmer_function_new_i32_to_void  
    Create host function (i32 -> void)
```

Description

Create a WASM host function that takes an i32 and returns nothing, using an R function as the implementation.

Usage

```
wasmer_function_new_i32_to_void(ptr, rfun)
```

Details

Create a WASM host function with signature i32 -> void

See Also

```
wasmer_register_r_function_ext(), wasmer_function_new_ext(), wasmer_function_new_i32_to_i32(),  
wasmer_function_new_i32_i32_to_i32(), wasmer_function_new_f64_f64_to_f64(), wasmer_function_new_f64_t  
wasmer_function_new_void_to_i32()
```

Other host function registration: [wasmer_function_new_ext\(\)](#), [wasmer_function_new_f64_f64_to_f64\(\)](#),
[wasmer_function_new_f64_to_f64\(\)](#), [wasmer_function_new_i32_i32_to_i32\(\)](#), [wasmer_function_new_i32_to_i32\(\)](#),
[wasmer_function_new_void_to_i32\(\)](#), [wasmer_register_r_function_ext\(\)](#)

Examples

```
## Not run:  
wasmer_function_new_i32_to_void(ptr, function(x) cat(x))  
  
## End(Not run)
```

```
wasmer_function_new_void_to_i32  
    Create host function (void -> i32)
```

Description

Create a WASM host function that takes no arguments and returns an i32, using an R function as the implementation.

Usage

```
wasmer_function_new_void_to_i32(ptr, rfun)
```

Details

Create a WASM host function with signature void -> i32

See Also

[wasmer_register_r_function_ext\(\)](#), [wasmer_function_new_ext\(\)](#), [wasmer_function_new_i32_to_i32\(\)](#), [wasmer_function_new_i32_i32_to_i32\(\)](#), [wasmer_function_new_f64_f64_to_f64\(\)](#), [wasmer_function_new_f64_to_f64\(\)](#), [wasmer_function_new_i32_to_i32\(\)](#), [wasmer_function_new_i32_to_void\(\)](#)

Other host function registration: [wasmer_function_new_ext\(\)](#), [wasmer_function_new_f64_f64_to_f64\(\)](#), [wasmer_function_new_f64_to_f64\(\)](#), [wasmer_function_new_i32_i32_to_i32\(\)](#), [wasmer_function_new_i32_to_i32\(\)](#), [wasmer_function_new_i32_to_void\(\)](#), [wasmer_register_r_function_ext\(\)](#)

Examples

```
## Not run:
wasmer_function_new_void_to_i32(ptr, function() 42)

## End(Not run)
```

wasmer_get_exported_table_ext

Get exported WASM Table

Description

Get a pointer to an exported table from a WASM instance by name.

Usage

```
wasmer_get_exported_table_ext(ptr, instance_name, table_export_name)
```

Arguments

ptr	External pointer to WasmerRuntime.
instance_name	Name of the instance.
table_export_name	Name of the exported table.

Details

Get a pointer to an exported table from a WASM instance by name

Value

External pointer to Table, or NULL if not found

See Also

[wasmer_table_new_ext\(\)](#), [wasmer_table_set_ext\(\)](#), [wasmer_table_grow_ext\(\)](#), [wasmer_table_get_ext\(\)](#)
Other table operations: [wasmer_table_get_ext\(\)](#), [wasmer_table_grow_ext\(\)](#), [wasmer_table_new_ext\(\)](#),
[wasmer_table_set_ext\(\)](#)

Examples

```
## Not run:  
wasmer_get_exported_table_ext(ptr, "inst1", "table1")  
  
## End(Not run)
```

```
wasmer_hello_world_example_ext  
    Hello World example
```

Description

Create a simple WASM "Hello World" example.

Usage

```
wasmer_hello_world_example_ext(ptr)
```

Arguments

`ptr` External pointer to WasmerRuntime.

Details

Create a simple "Hello World" example

Value

String result from WASM hello function

See Also

[wasmer_call_function_ext\(\)](#), [wasmer_call_function_safe_ext\(\)](#), [wasmer_host_function_example_ext\(\)](#),
[wasmer_math_example_ext\(\)](#)
Other function calling: [wasmer_call_function_ext\(\)](#), [wasmer_call_function_safe_ext\(\)](#),
[wasmer_host_function_example_ext\(\)](#), [wasmer_math_example_ext\(\)](#)

Examples

```
## Not run:  
wasmer_hello_world_example_ext(ptr)  
  
## End(Not run)
```

wasmer_host_function_example_ext
Host function example

Description

Example with host function imports.

Usage

```
wasmer_host_function_example_ext(ptr)
```

Arguments

ptr External pointer to WasmerRuntime.

Details

Example with host function imports

Value

List with results

See Also

[wasmer_call_function_ext\(\)](#), [wasmer_call_function_safe_ext\(\)](#), [wasmer_math_example_ext\(\)](#),
[wasmer_hello_world_example_ext\(\)](#)

Other function calling: [wasmer_call_function_ext\(\)](#), [wasmer_call_function_safe_ext\(\)](#),
[wasmer_hello_world_example_ext\(\)](#), [wasmer_math_example_ext\(\)](#)

Examples

```
## Not run:  
wasmer_host_function_example_ext(ptr)  
  
## End(Not run)
```

`wasmer_instantiate_ext`*Instantiate a compiled module in the runtime.*

Description

Instantiate a compiled module in the runtime.

Usage

```
wasmer_instantiate_ext(ptr, module_name, instance_name)
```

Arguments

<code>ptr</code>	External pointer to WasmerRuntime
<code>module_name</code>	Name of the module to instantiate
<code>instance_name</code>	Name to register the instance under

Value

Status message

`wasmer_instantiate_with_math_imports_ext`*Instantiate WASM module with math imports*

Description

Instantiate a WASM module with host functions for mathematical operations.

Usage

```
wasmer_instantiate_with_math_imports_ext(ptr, module_name, instance_name)
```

Arguments

<code>ptr</code>	External pointer to WasmerRuntime.
<code>module_name</code>	String name of the module to instantiate.
<code>instance_name</code>	String name to identify this instance.

Details

Create an instance with host functions for mathematical operations

Value

Status message

See Also

[wasmer_instantiate_ext\(\)](#), [wasmer_instantiate_with_table_ext\(\)](#), [wasmer_wasi_state_new_ext\(\)](#)

Other module instantiation: [wasmer_instantiate_with_table_ext\(\)](#), [wasmer_wasi_state_new_ext\(\)](#)

Examples

```
## Not run:
wasmer_instantiate_with_math_imports_ext(ptr, "mod1", "inst1")

## End(Not run)
```

wasmer_instantiate_with_table_ext

Instantiate WASM module with table import

Description

Instantiate a compiled WASM module in the runtime, with a custom table import.

Usage

```
wasmer_instantiate_with_table_ext(ptr, module_name, instance_name, table_ptr)
```

Arguments

ptr	External pointer to WasmerRuntime.
module_name	Name of the module to instantiate.
instance_name	Name to register the instance under.
table_ptr	External pointer to Table to import as "env.host_table".

Details

Instantiate a compiled module in the runtime, with a custom table import

Value

Status message

See Also

[wasmer_instantiate_ext\(\)](#), [wasmer_instantiate_with_math_imports_ext\(\)](#), [wasmer_wasi_state_new_ext\(\)](#)

Other module instantiation: [wasmer_instantiate_with_math_imports_ext\(\)](#), [wasmer_wasi_state_new_ext\(\)](#)

Examples

```
## Not run:
wasmer_instantiate_with_table_ext(ptr, "mod1", "inst1", table_ptr)

## End(Not run)
```

wasmer_list_exports_ext
List WASM exports

Description

List all exports from a WASM instance.

Usage

```
wasmer_list_exports_ext(ptr, instance_name)
```

Arguments

ptr	External pointer to WasmerRuntime.
instance_name	Name of the instance.

Details

List all exports from a WASM instance

Value

List with success flag and exports or error

See Also

[wasmer_list_function_signatures_ext\(\)](#)

Other exports and signatures: [wasmer_list_function_signatures_ext\(\)](#)

Examples

```
## Not run:
wasmer_list_exports_ext(ptr, "inst1")

## End(Not run)
```

wasmer_list_function_signatures_ext
List WASM function signatures

Description

List exported function signatures (name, input types, output types) for a WASM instance.

Usage

```
wasmer_list_function_signatures_ext(ptr, instance_name)
```

Arguments

`ptr` External pointer to WasmerRuntime.
`instance_name` Name of the instance.

Details

List exported function signatures (name, input types, output types) for a WASM instance

Value

Data frame with columns: name, params, results

See Also

[wasmer_list_exports_ext\(\)](#)

Other exports and signatures: [wasmer_list_exports_ext\(\)](#)

Examples

```
## Not run:  
wasmer_list_function_signatures_ext(ptr, "inst1")  
  
## End(Not run)
```

wasmer_math_example_ext

Math operations example

Description

Example WASM module for math operations.

Usage

```
wasmer_math_example_ext(ptr, a, b)
```

Arguments

ptr	External pointer to WasmerRuntime.
a	First integer.
b	Second integer.

Details

Math operations example

Value

List with results of add and multiply

See Also

[wasmer_call_function_ext\(\)](#), [wasmer_call_function_safe_ext\(\)](#), [wasmer_host_function_example_ext\(\)](#), [wasmer_hello_world_example_ext\(\)](#)

Other function calling: [wasmer_call_function_ext\(\)](#), [wasmer_call_function_safe_ext\(\)](#), [wasmer_hello_world_example_ext\(\)](#), [wasmer_host_function_example_ext\(\)](#)

Examples

```
## Not run:  
wasmer_math_example_ext(ptr, 2, 3)  
  
## End(Not run)
```

`wasmer_memory_grow_ext`*Grow WASM memory*

Description

Grow WASM memory by a number of pages.

Usage

```
wasmer_memory_grow_ext(ptr, instance_name, memory_name, pages)
```

Arguments

<code>ptr</code>	External pointer to WasmerRuntime.
<code>instance_name</code>	Name of the instance.
<code>memory_name</code>	Name of the exported memory.
<code>pages</code>	Number of pages to grow.

Details

Grow WASM memory by a number of pages

Value

TRUE if successful

See Also

[wasmer_memory_size_ext\(\)](#), [wasmer_memory_read_ext\(\)](#), [wasmer_memory_write_ext\(\)](#), [wasmer_memory_read_string_ext\(\)](#)

Other memory operations: [wasmer_memory_read_ext\(\)](#), [wasmer_memory_read_string_ext\(\)](#), [wasmer_memory_size_ext\(\)](#), [wasmer_memory_write_ext\(\)](#)

Examples

```
## Not run:  
wasmer_memory_grow_ext(ptr, "inst1", "memory", 1)  
  
## End(Not run)
```

`wasmer_memory_read_ext`*Read WASM memory*

Description

Read bytes from WASM memory.

Usage

```
wasmer_memory_read_ext(ptr, instance_name, memory_name, offset, length)
```

Arguments

<code>ptr</code>	External pointer to WasmerRuntime.
<code>instance_name</code>	Name of the instance.
<code>memory_name</code>	Name of the exported memory.
<code>offset</code>	Offset to start reading.
<code>length</code>	Number of bytes to read.

Details

Read bytes from WASM memory

Value

Raw vector of bytes

See Also

[wasmer_memory_size_ext\(\)](#), [wasmer_memory_write_ext\(\)](#), [wasmer_memory_read_string_ext\(\)](#), [wasmer_memory_grow_ext\(\)](#)

Other memory operations: [wasmer_memory_grow_ext\(\)](#), [wasmer_memory_read_string_ext\(\)](#), [wasmer_memory_size_ext\(\)](#), [wasmer_memory_write_ext\(\)](#)

Examples

```
## Not run:  
wasmer_memory_read_ext(ptr, "inst1", "memory", 0, 10)  
  
## End(Not run)
```

wasmer_memory_read_string_ext
Read WASM memory as string

Description

Read UTF-8 string from WASM memory.

Usage

```
wasmer_memory_read_string_ext(ptr, instance_name, memory_name, offset, length)
```

Arguments

ptr	External pointer to WasmerRuntime.
instance_name	Name of the instance.
memory_name	Name of the exported memory.
offset	Offset to start reading.
length	Number of bytes to read.

Details

Read UTF-8 string from WASM memory

Value

String

See Also

[wasmer_memory_size_ext\(\)](#), [wasmer_memory_read_ext\(\)](#), [wasmer_memory_write_ext\(\)](#), [wasmer_memory_grow_ext\(\)](#)
Other memory operations: [wasmer_memory_grow_ext\(\)](#), [wasmer_memory_read_ext\(\)](#), [wasmer_memory_size_ext\(\)](#), [wasmer_memory_write_ext\(\)](#)

Examples

```
## Not run:  
wasmer_memory_read_string_ext(ptr, "inst1", "memory", 0, 10)  
  
## End(Not run)
```

`wasmer_memory_size_ext`*Get WASM memory size*

Description

Get the size of exported memory (in bytes and pages).

Usage

```
wasmer_memory_size_ext(ptr, instance_name, memory_name)
```

Arguments

<code>ptr</code>	External pointer to WasmerRuntime.
<code>instance_name</code>	Name of the instance.
<code>memory_name</code>	Name of the exported memory (default "memory").

Details

Get the size of exported memory (in bytes and pages)

Value

List with `size_bytes` and `size_pages`

See Also

[wasmer_memory_read_ext\(\)](#), [wasmer_memory_write_ext\(\)](#), [wasmer_memory_read_string_ext\(\)](#),
[wasmer_memory_grow_ext\(\)](#)

Other memory operations: [wasmer_memory_grow_ext\(\)](#), [wasmer_memory_read_ext\(\)](#), [wasmer_memory_read_string_ext\(\)](#),
[wasmer_memory_write_ext\(\)](#)

Examples

```
## Not run:  
wasmer_memory_size_ext(ptr, "inst1", "memory")  
  
## End(Not run)
```

`wasmer_memory_write_ext`*Write WASM memory*

Description

Write bytes to WASM memory.

Usage

```
wasmer_memory_write_ext(ptr, instance_name, memory_name, offset, bytes)
```

Arguments

<code>ptr</code>	External pointer to WasmerRuntime.
<code>instance_name</code>	Name of the instance.
<code>memory_name</code>	Name of the exported memory.
<code>offset</code>	Offset to start writing.
<code>bytes</code>	Raw vector of bytes to write.

Details

Write bytes to WASM memory

Value

TRUE if successful

See Also

[wasmer_memory_size_ext\(\)](#), [wasmer_memory_read_ext\(\)](#), [wasmer_memory_read_string_ext\(\)](#),
[wasmer_memory_grow_ext\(\)](#)

Other memory operations: [wasmer_memory_grow_ext\(\)](#), [wasmer_memory_read_ext\(\)](#), [wasmer_memory_read_string_ext\(\)](#),
[wasmer_memory_size_ext\(\)](#)

Examples

```
## Not run:  
wasmer_memory_write_ext(ptr, "inst1", "memory", 0, as.raw(c(1,2,3)))  
  
## End(Not run)
```

wasmer_register_r_function_ext
Register R host function

Description

Register an R function for use as a host function in WASM (per-runtime).

Usage

```
wasmer_register_r_function_ext(ptr, name, fun)
```

Arguments

ptr	External pointer to WasmerRuntime.
fun	R function object.
_name	Name to register the function under.

Details

Register an R function for use as a host function in WASM (per-runtime)

Value

TRUE if successful

See Also

[wasmer_function_new_ext\(\)](#), [wasmer_function_new_i32_to_i32\(\)](#), [wasmer_function_new_i32_i32_to_i32\(\)](#),
[wasmer_function_new_f64_f64_to_f64\(\)](#), [wasmer_function_new_f64_to_f64\(\)](#), [wasmer_function_new_i32_to_void\(\)](#),
[wasmer_function_new_void_to_i32\(\)](#)

Other host function registration: [wasmer_function_new_ext\(\)](#), [wasmer_function_new_f64_f64_to_f64\(\)](#),
[wasmer_function_new_f64_to_f64\(\)](#), [wasmer_function_new_i32_i32_to_i32\(\)](#), [wasmer_function_new_i32_to_i32\(\)](#),
[wasmer_function_new_i32_to_void\(\)](#), [wasmer_function_new_void_to_i32\(\)](#)

Examples

```
## Not run:  
wasmer_register_r_function_ext(ptr, "myfun", function(x) x)  
  
## End(Not run)
```

wasmer_runtime_new *Create a new Wasmer runtime*

Description

Create a new Wasmer runtime for executing WebAssembly modules.

Usage

```
wasmer_runtime_new()
```

Details

Create a new Wasmer runtime

Value

External pointer to WasmerRuntime

See Also

[wasmer_runtime_new_with_compiler_ext\(\)](#), [wasmer_runtime_release_ressources\(\)](#)

Other runtime management: [wasmer_runtime_new_with_compiler_ext\(\)](#), [wasmer_runtime_release_ressources\(\)](#)

Examples

```
## Not run:  
ptr <- wasmer_runtime_new()  
  
## End(Not run)
```

wasmer_runtime_new_with_compiler_ext
 Create a new Wasmer runtime with a specific compiler

Description

Create a new Wasmer runtime for executing WebAssembly modules using a specified compiler backend.

Usage

```
wasmer_runtime_new_with_compiler_ext(compiler_name)
```

Arguments

compiler_name Name of the compiler ("cranelift", "singlepass").

Details

Create a new Wasmer runtime with a specific compiler

Value

External pointer to WasmerRuntime

See Also

[wasmer_runtime_new\(\)](#), [wasmer_runtime_release_ressources\(\)](#)

Other runtime management: [wasmer_runtime_new\(\)](#), [wasmer_runtime_release_ressources\(\)](#)

Examples

```
## Not run:  
ptr <- wasmer_runtime_new_with_compiler_ext("cranelift")  
  
## End(Not run)
```

wasmer_runtime_release_ressources

Release Wasmer runtime resources

Description

Explicitly shutdown the runtime, free resources, and clear the R external pointer.

Usage

```
wasmer_runtime_release_ressources(ptr)
```

Arguments

ptr External pointer to WasmerRuntime.

Details

Release resources held by the Wasmer runtime

Value

NULL (invisible)

See Also

[wasmer_runtime_new\(\)](#), [wasmer_runtime_new_with_compiler_ext\(\)](#)

Other runtime management: [wasmer_runtime_new\(\)](#), [wasmer_runtime_new_with_compiler_ext\(\)](#)

Examples

```
## Not run:
wasmer_runtime_release_ressources(ptr)

## End(Not run)
```

wasmer_table_get_ext *Get WASM Table entry*

Description

Get a function reference from a WASM Table.

Usage

```
wasmer_table_get_ext(ptr, table_ptr, index)
```

Arguments

ptr	External pointer to WasmerRuntime.
table_ptr	External pointer to Table.
index	Index to get.

Details

Get a function reference from a WASM Table

Value

External pointer to Function (or NULL)

See Also

[wasmer_table_new_ext\(\)](#), [wasmer_table_set_ext\(\)](#), [wasmer_table_grow_ext\(\)](#), [wasmer_get_exported_table_ext\(\)](#)
Other table operations: [wasmer_get_exported_table_ext\(\)](#), [wasmer_table_grow_ext\(\)](#), [wasmer_table_new_ext\(\)](#), [wasmer_table_set_ext\(\)](#)

Examples

```
## Not run:
wasmer_table_get_ext(ptr, table_ptr, 0)

## End(Not run)
```

wasmer_table_grow_ext *Grow WASM Table*

Description

Grow a WASM Table by a number of elements.

Usage

```
wasmer_table_grow_ext(ptr, table_ptr, delta, func_ptr)
```

Arguments

ptr	External pointer to WasmerRuntime.
table_ptr	External pointer to Table.
delta	Number of elements to grow.
func_ptr	External pointer to Function to fill new slots.

Details

Grow a WASM Table

Value

Previous size

See Also

[wasmer_table_new_ext\(\)](#), [wasmer_table_set_ext\(\)](#), [wasmer_table_get_ext\(\)](#), [wasmer_get_exported_table_ext\(\)](#)

Other table operations: [wasmer_get_exported_table_ext\(\)](#), [wasmer_table_get_ext\(\)](#), [wasmer_table_new_ext\(\)](#), [wasmer_table_set_ext\(\)](#)

Examples

```
## Not run:  
wasmer_table_grow_ext(ptr, table_ptr, 1, func_ptr)  
  
## End(Not run)
```

wasmer_table_new_ext *Create WASM Table*

Description

Create a new WASM Table.

Usage

```
wasmer_table_new_ext(ptr, min, max)
```

Arguments

ptr	External pointer to WasmerRuntime.
min	Minimum size.
max	Maximum size (optional).

Details

Create a new WASM Table

Value

External pointer to Table

See Also

[wasmer_table_set_ext\(\)](#), [wasmer_table_grow_ext\(\)](#), [wasmer_table_get_ext\(\)](#), [wasmer_get_exported_table_ext\(\)](#)

Other table operations: [wasmer_get_exported_table_ext\(\)](#), [wasmer_table_get_ext\(\)](#), [wasmer_table_grow_ext\(\)](#), [wasmer_table_set_ext\(\)](#)

Examples

```
## Not run:  
wasmer_table_new_ext(ptr, 1, 10)  
  
## End(Not run)
```

wasmer_table_set_ext *Set WASM Table entry*

Description

Set a function reference in a WASM Table.

Usage

```
wasmer_table_set_ext(ptr, table_ptr, index, func_ptr)
```

Arguments

ptr	External pointer to WasmerRuntime.
table_ptr	External pointer to Table.
index	Index to set.
func_ptr	External pointer to Function.

Details

Set a function reference in a WASM Table

Value

TRUE if successful

See Also

[wasmer_table_new_ext\(\)](#), [wasmer_table_grow_ext\(\)](#), [wasmer_table_get_ext\(\)](#), [wasmer_get_exported_table_ext\(\)](#)

Other table operations: [wasmer_get_exported_table_ext\(\)](#), [wasmer_table_get_ext\(\)](#), [wasmer_table_grow_ext\(\)](#), [wasmer_table_new_ext\(\)](#)

Examples

```
## Not run:  
wasmer_table_set_ext(ptr, table_ptr, 0, func_ptr)  
  
## End(Not run)
```

`wasmer_wasi_state_new_ext`*Create WASI/WASIX state*

Description

Create a WASI or WASIX state for the runtime.

Usage

```
wasmer_wasi_state_new_ext(ptr, module_name, env_type)
```

Arguments

<code>ptr</code>	External pointer to WasmerRuntime.
<code>module_name</code>	Name of the module (for WASI/WASIX args).
<code>env_type</code>	Environment type: "wasi" (default) or "wasix".

Details

Create a WASI or WASIX state for the runtime

Value

TRUE if successful, FALSE otherwise

See Also

[wasmer_instantiate_ext\(\)](#), [wasmer_instantiate_with_math_imports_ext\(\)](#), [wasmer_instantiate_with_table_ext\(\)](#)

Other module instantiation: [wasmer_instantiate_with_math_imports_ext\(\)](#), [wasmer_instantiate_with_table_ext\(\)](#)

Examples

```
## Not run:  
wasmer_wasi_state_new_ext(ptr, "mod1", "wasi")  
  
## End(Not run)
```

`wasmer_wat_to_wasm_ext`*Convert WAT to WASM*

Description

Convert WebAssembly Text (WAT) to WASM binary and return as R raw vector.

Usage

```
wasmer_wat_to_wasm_ext(wat_code)
```

Arguments

`wat_code` WAT code as a string.

Details

Convert WAT (WebAssembly Text) to WASM binary and return as R raw vector

Value

WASM binary as R raw vector, or error string if conversion fails

See Also

[wasmer_compile_wat_ext\(\)](#), [wasmer_compile_wasm_ext\(\)](#)

Other module compilation: [wasmer_compile_wasm_ext\(\)](#), [wasmer_compile_wat_ext\(\)](#)

Examples

```
## Not run:  
wasmer_wat_to_wasm_ext(wat_code)  
  
## End(Not run)
```

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