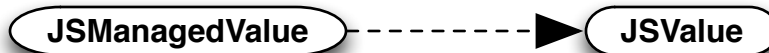# JSManagedValue

JSManagedValue serves as a way to avoid retain loops by holding a weak relationship to the underlying JSValueRef, providing a means by which the garbage collector is aware of external relationships, and also allowing the garbage collector to signal the ManagedValue of its weakly held JSObjectRef's collection.

Usage

JSManagedValue is a publicly facing class that has one generated property, of the JSValue representing the JSValueRef it holds. It is initialized with a JSValue, and will return that value, or one pointing to the same object until the underlying JSValueRef is garbage collected.

JSManagedValue - - - - - - - ▶ JSValue

Diagram

JSManagedValue.h

JSManagedValue objC
value
initWithValue: - - ▶ JSValue

Value is a dynamic property, acting as a read-only weak relationship.

JSManagedValue.mm

WeakHandleOwner
JSManagedValueHandleOwner JSC
(No new attributes)
finalize
isReachableFromOpaqueRoots

managedValueHandleOwner

JSManagedValue objC
m_value
disconnectValue - - ▶ **JSObject**

Internally, JSManagedValue has a weak pointer to a JSObject. This pointer is created using ManagedValueHandleOwner, the class and the function. Doing so allows tying the GC and JSManagedValue. When the GC is visiting, it makes the association from the value to the managedValue so JSVirtualMachine can check ownerships. When an object is finalized, the disconnectValue method is called to declare the weak reference broken.