
CFHTTPAuthentication Reference

[Core Foundation > Networking](#)



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Apple Inc.
1 Infinite Loop
Cupertino, CA 95014
408-996-1010

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CFHTTPAuthentication Reference

Derived From:	CType
Framework:	CoreServices
Companion guide	CFNetwork Programming Guide
Declared in	CFHTTPAuthentication.h CFHTTPMessage.h

Overview

The CFHTTPAuthentication opaque type provides an abstraction of HTTP authentication information.

Functions by Task

Creating an HTTP authentication

[CFHTTPAuthenticationCreateFromResponse](#) (page 8)

Uses an authentication failure response to create a CFHTTPAuthentication object.

CFHTTP Authentication Functions

This section describes the CFNetwork authentication functions that are used to manage authentication information associated with a request. The functions work with a CFHTTPAuthentication object, which is created from an HTTP response that failed with a 401 or 407 error code.

When you have analyzed the CFHTTPAuthentication object and acquired the necessary credentials to perform the authentication, call `CFHTTPMessageApplyCredentials` or `CFHTTPMessageApplyCredentialDictionary` to perform the authentication.

[CFHTTPAuthenticationAppliesToRequest](#) (page 6)

Returns a Boolean value that indicates whether a CFHTTPAuthentication object is associated with a CFHTTPMessage object.

[CFHTTPAuthenticationCopyDomains](#) (page 7)

Returns an array of domain URLs to which a given CFHTTPAuthentication object can be applied.

[CFHTTPAuthenticationCopyMethod](#) (page 7)

Gets the strongest authentication method that will be used when a CFHTTPAuthentication object is applied to a request.

[CFHTTPAuthenticationCopyRealm](#) (page 7)

Gets an authentication information's namespace.

[CFHTTPAuthenticationIsValid](#) (page 9)

Returns a Boolean value that indicates whether a CFHTTPAuthentication object is valid.

[CFHTTPAuthenticationRequiresAccountDomain](#) (page 10)

Returns a Boolean value that indicates whether a CFHTTPAuthentication object uses an authentication method that requires an account domain.

[CFHTTPAuthenticationRequiresOrderedRequests](#) (page 10)

Returns a Boolean value that indicates whether authentication requests should be made one at a time.

[CFHTTPAuthenticationRequiresUserNameAndPassword](#) (page 11)

Returns a Boolean value that indicates whether a CFHTTPAuthentication object uses an authentication method that requires a username and a password.

Getting the CFHTTPAuthentication type ID

[CFHTTPAuthenticationGetTypeID](#) (page 9)

Gets the Core Foundation type identifier for the CFHTTPAuthentication opaque type.

Functions

CFHTTPAuthenticationAppliesToRequest

Returns a Boolean value that indicates whether a CFHTTPAuthentication object is associated with a CFHTTPMessage object.

```
Boolean CFHTTPAuthenticationAppliesToRequest (
    CFHTTPAuthenticationRef auth,
    CFHTTPMessageRef request
);
```

Parameters

auth

The CFHTTPAuthentication object to examine.

request

Request that *auth* is to be tested against.

Return Value

TRUE if *auth* is associated with *request*, otherwise FALSE.

Discussion

If this function returns TRUE, you can use *auth* to provide authentication information when using *request*.

Availability

Available in Mac OS X v10.4 and later.

Declared In

CFHTTPAuthentication.h

CFHTTPAuthenticationCopyDomains

Returns an array of domain URLs to which a given CFHTTPAuthentication object can be applied.

```
CFArrayRef CFHTTPAuthenticationCopyDomains (
    CFHTTPAuthenticationRef auth
);
```

Parameters

auth

The CFHTTPAuthentication object to examine.

Return Value

A CFArray object that contains the domain URLs to which *auth* should be applied. Ownership follows the Create Rule.

Discussion

This function is provided for informational purposes only.

Availability

Available in Mac OS X version 10.4 and later.

Declared In

CFHTTPAuthentication.h

CFHTTPAuthenticationCopyMethod

Gets the strongest authentication method that will be used when a CFHTTPAuthentication object is applied to a request.

```
CFStringRef CFHTTPAuthenticationCopyMethod (
    CFHTTPAuthenticationRef auth
);
```

Parameters

auth

The CFHTTPAuthentication object to examine.

Return Value

A string containing the authentication method that will be used *auth* is applied to a request. If more than one authentication method is available, the strongest authentication method is returned. Ownership follows the Create Rule.

Availability

Available in Mac OS X version 10.4 and later.

Declared In

CFHTTPAuthentication.h

CFHTTPAuthenticationCopyRealm

Gets an authentication information's namespace.

```
CFStringRef CFHTTPAuthenticationCopyRealm (
    CFHTTPAuthenticationRef auth
);
```

Parameters*auth*

The CFHTTPAuthentication object to examine.

Return Value

The namespace, if there is one; otherwise NULL. Ownership follows the Create Rule.

Discussion

Some authentication methods provide a namespace, and it is usually used to prompt the user for a name and password.

Availability

Available in Mac OS X version 10.4 and later.

Declared In

CFHTTPAuthentication.h

CFHTTPAuthenticationCreateFromResponse

Uses an authentication failure response to create a CFHTTPAuthentication object.

```
CFHTTPAuthenticationRef CFHTTPAuthenticationCreateFromResponse (
    CFAllocatorRef alloc,
    CFHTTPMessageRef response
);
```

Parameters*alloc*

The allocator to use to allocate memory for the new object. Pass NULL or `kCFAllocatorDefault` to use the current default allocator.

response

Response indicating an authentication failure; usually a 401 or a 407 response.

Return Value

CFHTTPAuthentication object that can be used for adding credentials to future requests. Ownership follows the Create Rule.

Discussion

This function uses a response containing authentication failure information to create a reference to a CFHTTPAuthentication object. You can use the object to add credentials to future requests. You can query the object to get the following information:

- whether it can be used and re-used to authenticate with its corresponding server
[[CFHTTPAuthenticationIsValid](#) (page 9)]
- the authentication method that will be used when it is used to perform an authentication
[[CFHTTPAuthenticationCopyMethod](#) (page 7)]
- whether it is associated with a particular CFHTTPMessageRef
[[CFHTTPAuthenticationAppliesToRequest](#) (page 6)]

- whether a user name and a password will be required when it is used to perform an authentication [[CFHTTPAuthenticationRequiresUserNameAndPassword](#) (page 11)]
- whether an account domain will be required when it is used to perform an authentication [[CFHTTPAuthenticationRequiresAccountDomain](#) (page 10)]
- whether authentication requests should be sent one at a time to the corresponding server [[CFHTTPAuthenticationRequiresOrderedRequests](#) (page 10)]
- the namespace (if any) that the domain uses to prompt for a name and password [[CFHTTPAuthenticationCopyRealm](#) (page 7)]
- the domain URLs the instance applies to [[CFHTTPAuthenticationCopyDomains](#) (page 7)]

When you have determined what information will be needed to perform the authentication and accumulated that information, call `CFHTTPMessageApplyCredentials` or `CFHTTPMessageApplyCredentialDictionary` to perform the authentication.

Availability

Available in Mac OS X version 10.4 and later.

Declared In

`CFHTTPAuthentication.h`

CFHTTPAuthenticationGetTypeID

Gets the Core Foundation type identifier for the `CFHTTPAuthentication` opaque type.

```
CFTypeID CFHTTPAuthenticationGetTypeID ();
```

Return Value

The Core Foundation type identifier for the `CFHTTPAuthentication` opaque type.

Availability

Available in Mac OS X version 10.4 and later.

Declared In

`CFHTTPAuthentication.h`

CFHTTPAuthenticationIsValid

Returns a Boolean value that indicates whether a `CFHTTPAuthentication` object is valid.

```
Boolean CFHTTPAuthenticationIsValid (
    CFHTTPAuthenticationRef auth,
    CFStreamError *error
);
```

Parameters

auth

The `CFHTTPAuthentication` object to examine.

error

Pointer to a `CFStreamError` structure, whose fields, if an error has occurred, are set to the error and the error's domain.

Return Value

TRUE if *auth* contains enough information to be applied to a request.

If this function returns FALSE, the CFHTTPAuthentication object may still contain useful information, such as the name of an unsupported authentication method.

Discussion

If this function returns TRUE for *auth*, the object is good for use with functions such as `CFHTTPMessageApplyCredentials` and `CFHTTPMessageApplyCredentialDictionary`. If this function returns FALSE, *auth* is invalid, and authentications using it will not succeed.

Availability

Available in Mac OS X version 10.4 and later.

Declared In

`CFHTTPAuthentication.h`

CFHTTPAuthenticationRequiresAccountDomain

Returns a Boolean value that indicates whether a CFHTTPAuthentication object uses an authentication method that requires an account domain.

```
Boolean CFHTTPAuthenticationRequiresAccountDomain (
    CFHTTPAuthenticationRef auth
);
```

Parameters

auth

The CFHTTPAuthentication object to examine.

Return Value

TRUE if *auth* uses an authentication method that requires an account domain, otherwise FALSE.

Availability

Available in Mac OS X version 10.4 and later.

Declared In

`CFHTTPAuthentication.h`

CFHTTPAuthenticationRequiresOrderedRequests

Returns a Boolean value that indicates whether authentication requests should be made one at a time.

```
Boolean CFHTTPAuthenticationRequiresOrderedRequests (
    CFHTTPAuthenticationRef auth
);
```

Parameters

auth

The CFHTTPAuthentication object to examine.

Return Value

TRUE if *auth* requires ordered requests, otherwise FALSE.

Discussion

Some authentication methods require that future requests must be performed in an ordered manner. If this function returns `TRUE`, clients can improve their chances of authenticating successfully by issuing requests one at a time as responses come back from the server.

Availability

Available in Mac OS X version 10.4 and later.

Declared In

`CFHTTPAuthentication.h`

CFHTTPAuthenticationRequiresUserNameAndPassword

Returns a Boolean value that indicates whether a `CFHTTPAuthentication` object uses an authentication method that requires a username and a password.

```
Boolean CFHTTPAuthenticationRequiresUserNameAndPassword (
    CFHTTPAuthenticationRef auth
);
```

Parameters

auth

The `CFHTTPAuthentication` object to examine.

Return Value

`TRUE` if *auth* requires a username and password when it is applied to a request; otherwise, `FALSE`.

Availability

Available in Mac OS X version 10.4 and later.

Declared In

`CFHTTPAuthentication.h`

Data Types

CFHTTPAuthenticationRef

An opaque reference representing HTTP authentication information.

```
typedef struct __CFHTTPAuthentication *CFHTTPAuthenticationRef;
```

Availability

Available in Mac OS X version 10.4 and later.

Declared In

`CFHTTPAuthentication.h`

Constants

CFHTTP Authentication Scheme Constants

Specifies the authentication scheme when adding authentication information to a CFHTTP request message object.

```
const CFStringRef kCFHTTPAuthenticationSchemeBasic;
const CFStringRef kCFHTTPAuthenticationSchemeDigest;
const CFStringRef kCFHTTPAuthenticationSchemeNegotiate;
const CFStringRef kCFHTTPAuthenticationSchemeNTLM;
```

Constants

`kCFHTTPAuthenticationSchemeBasic`

Specifies basic authentication consisting of a user name and a password.

Available in Mac OS X v10.1 and later.

Declared in `CFHTTPMessage.h`.

`kCFHTTPAuthenticationSchemeDigest`

Reserved.

Available in Mac OS X v10.1 and later.

Declared in `CFHTTPMessage.h`.

`kCFHTTPAuthenticationSchemeNegotiate`

Specifies the Negotiate authentication scheme.

Available in Mac OS X v10.5 and later.

Declared in `CFHTTPMessage.h`.

`kCFHTTPAuthenticationSchemeNTLM`

Specifies the NTLM authentication scheme.

Available in Mac OS X v10.5 and later.

Declared in `CFHTTPMessage.h`.

Discussion

The authentication scheme constants are used to specify the authentication scheme when calling `CFHTTPMessageAddAuthentication`.

CFStream HTTP Authentication Error Constants

Authentication error codes that may be returned when trying to apply authentication to a request.

```
enum CFStreamErrorHTTPAuthentication{
    kCFStreamErrorHTTPAuthenticationTypeUnsupported = -1000,
    kCFStreamErrorHTTPAuthenticationBadUserName = -1001,
    kCFStreamErrorHTTPAuthenticationBadPassword = -1002
};
typedef enum CFStreamErrorHTTPAuthentication CFStreamErrorHTTPAuthentication;
```

Constants

`kCFStreamErrorHTTPAuthenticationTypeUnsupported`
Specified authentication type is not supported.

Available in Mac OS X v10.4 and later.

Declared in `CFHTTPAuthentication.h`.

`kCFStreamErrorHTTPAuthenticationBadUserName`

User name is in a format that is not suitable for the request. Currently, user names are decoded using `kCFStringEncodingISOLatin1`.

Available in Mac OS X v10.4 and later.

Declared in `CFHTTPAuthentication.h`.

`kCFStreamErrorHTTPAuthenticationBadPassword`

Password is in a format that is not suitable for the request. Currently, passwords are decoded using `kCFStringEncodingISOLatin1`.

Available in Mac OS X v10.4 and later.

Declared in `CFHTTPAuthentication.h`.

CFHTTPMessageApplyCredentialDictionary Keys

Constants for keys in the dictionary passed to `CFHTTPMessageApplyCredentialDictionary`.

```
const CFStringRef kCFHTTPAuthenticationUserName;
const CFStringRef kCFHTTPAuthenticationPassword;
const CFStringRef kCFHTTPAuthenticationAccountDomain;
```

Constants

`kCFHTTPAuthenticationUserName`

Username to use for authentication.

`kCFHTTPAuthenticationPassword`

Password to use for authentication.

Available in Mac OS X v10.4 and later.

Declared in `CFHTTPAuthentication.h`.

`kCFHTTPAuthenticationAccountDomain`

Account domain to use for authentication.

Available in Mac OS X v10.4 and later.

Declared in `CFHTTPAuthentication.h`.

Document Revision History

This table describes the changes to *CFHTTPAuthentication Reference*.

Date	Notes
2007-05-15	Made minor formatting changes.
2006-02-07	New document that describes the C API for applying authentication credentials to HTTP messages.

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