

[Foundation](#) / [URLRequest](#)

Structure






URLRequest

A URL load request that is independent of protocol or URL scheme.

iOS 8.0+ | iPadOS 8.0+ | Mac Catalyst 8.0+ | macOS 10.10+ | tvOS 9.0+ | visionOS 1.0+ | watchOS 2.0+

```
struct URLRequest
```

Mentioned in

-  [Uploading data to a website](#)
-  [Accessing cached data](#)
-  [Downloading files from websites](#)
-  [Downloading files in the background](#)
-  [Processing URL session data task results with Combine](#)

Overview

`URLRequest` encapsulates two essential properties of a load request: the URL to load and the policies used to load it. In addition, for HTTP and HTTPS requests, `URLRequest` includes the HTTP method (GET, POST, and so on) and the HTTP headers.

`URLRequest` only represents information about the request. Use other classes, such as `URLSession`, to send the request to a server. See [Fetching website data into memory](#) and [Uploading data to a website](#) for an introduction to these techniques.

When writing Swift code, favor this structure over the `NSURLRequest` and `NSMutableURLRequest` classes.

Certain header fields are reserved; see [Reserved HTTP headers](#).

Topics

Creating a request

```
init(url: URL, cachePolicy: URLRequest.CachePolicy, timeoutInterval: TimeInterval)
```

Creates and initializes a URL request with the given URL, cache policy, and timeout interval.

Working with a cache policy

```
var cachePolicy: URLRequest.CachePolicy
```

The request's cache policy.

```
typealias CachePolicy
```

An alias for the cache policy.

```
enum CachePolicy
```

The constants used to specify interaction with the cached responses.

Accessing request components

```
var httpMethod: String?
```

The HTTP request method.

```
var url: URL?
```

The URL of the request.

```
var httpBody: Data?
```

The data sent as the message body of a request, such as for an HTTP POST request.

```
var httpBodyStream: InputStream?
```

The stream used to deliver the HTTP body.

```
var mainDocumentURL: URL?
```

The main document URL associated with this request.

Accessing header fields

```
var allHTTPHeaderFields: [String : String]?
```

A dictionary containing all of the HTTP header fields for a request.

```
func addValue(String, forHTTPHeaderField: String)
```

Adds a value to the header field.

```
func setValue(String?, forHTTPHeaderField: String)
```

Sets a value for the header field.

```
func value(forHTTPHeaderField: String) -> String?
```

Retrieves a header value.

Controlling request behavior

```
var timeoutInterval: TimeInterval
```

The timeout interval of the request.

```
var httpShouldHandleCookies: Bool
```

A Boolean value indicating whether cookies will be sent with and set for this request.

```
var httpShouldUsePipelining: Bool
```

A Boolean value indicating whether the request should transmit before the previous response is received.

Deprecated

```
var allowsCellularAccess: Bool
```

A Boolean value indicating whether the request is allowed to use the built-in cellular radios to satisfy the request.

```
var allowsPersistentDNS: Bool
```

```
var assumesHTTP3Capable: Bool
```

```
var cookiePartitionIdentifier: String?
```

```
var requiresDNSSECValidation: Bool
```

Supporting limited modes

```
var allowsConstrainedNetworkAccess: Bool
```

A Boolean value that indicates whether the request may use the network when the user has specified Low Data Mode.

`var allowsExpensiveNetworkAccess: Bool`

A Boolean value that indicates whether connections may use a network interface that the system considers expensive.

Accessing the service type

`var networkServiceType: URLRequest.NetworkServiceType`

The type of network service for all tasks within network sessions to enable Cellular Network Slicing.

`typealias NetworkServiceType`

An alias for the network service type.

`enum NetworkServiceType`

Constants that specify how a request uses network resources.

Indicating the source of the request

`var attribution: URLRequest.Attribution`

The entity that initiates the network request.

`typealias Attribution`

A type that indicates the entities that can make a network request.

Using reference types

`class NSURLRequest`

A URL load request that is independent of protocol or URL scheme.

`class NSMutableURLRequest`

A mutable URL load request that is independent of protocol or URL scheme.

~~`typealias MutableURLRequest`~~ Deprecated

Instance Properties

`var allowsUltraConstrainedNetworkAccess: Bool`

true if the receiver is allowed to use an interface marked as ultra-constrained to satisfy the request, false otherwise.

Relationships

Conforms To

Copyable
CustomDebugStringConvertible
CustomReflectable
CustomStringConvertible
Equatable
Hashable
ReferenceConvertible
Sendable
SendableMetatype

See Also

Requests and responses

`class` `NSURLRequest`

A URL load request that is independent of protocol or URL scheme.

`class` `NSMutableURLRequest`

A mutable URL load request that is independent of protocol or URL scheme.

`class` `URLResponse`

The metadata associated with the response to a URL load request, independent of protocol and URL scheme.

`class` `HTTPURLResponse`

The metadata associated with the response to an HTTP protocol URL load request.