



Connectivity

Detecting Internet connectivity on iOS

Reachability

Used by iOS developers as the de facto means of checking whether an Internet connection is available.

"A remote host is considered reachable when a data packet, sent by an application into the network stack, can leave the local device. Reachability does not guarantee that the data packet will actually be received by the host."

- Apple Developer Documentation

Captive Portals

Consider an iOS device connected to a router disconnected from the Internet.

"A captive portal is a web page which is displayed to newly connected user before they are granted broader access to network resources."

- Wikipedia

iOS

Contacts a number of known URLs hosting a small webpage:

e.g. <http://www.apple.com/library/test/success.html>

```
<HTML><HEAD><TITLE>Success</TITLE></  
HEAD><BODY>Success</BODY></HTML>
```

If the content cannot be retrieved then a captive portal is blocking the connection. iOS can present the web page for user interaction to access the network.

However, iOS does not provide an API for this functionality.

Connectivity

- Provides a familiar API similar to Reachability.
- Emulates the behaviour of iOS by contacting a set of URLs and checking the response when WiFi available.
- Connectivity URLs & percentage of successful connectivity checks may be specified.
- Polling option available for situations where a persistent connection is required.

API

```
let connectivity: Connectivity = Connectivity()

connectivity.connectivityURLs = [URL(string: "https://www.apple.com/library/
test/success.html")!]

let connectivityChanged: (Connectivity) -> Void = { [weak self] connectivity in
    self?.updateConnectionStatus(connectivity.status)
}

connectivity.whenConnected = connectivityChanged
connectivity.whenDisconnected = connectivityChanged
connectivity.startNotifier()
connectivity.stopNotifier()
```

API

```
func updateConnectionStatus(_ status:
Connectivity.ConnectivityStatus) {

    switch status {
    case .connectedViaWiFi:
    case .connectedViaWiFiWithoutInternet:
    case .connectedViaWWAN:
    case .connectedViaWWANWithoutInternet:
    case .notConnected:

    }

}
```

Connectivity

<https://github.com/rwbutler/Connectivity>

- Cocoapods

```
pod "Connectivity"
```

- Carthage

```
github "rwbutler/Connectivity"
```

References

- Beyond Reachability - Detecting true Internet Connectivity on iOS
 - <https://medium.com/@rwbutler/beyond-reachability-detecting-true-internet-connectivity-on-ios-928da1b60122>
- Captive Portal - Wikipedia
 - https://en.wikipedia.org/wiki/Captive_portal
- SCNetworkReachability - Apple Developer Documentation
 - <https://developer.apple.com/documentation/systemconfiguration/scnetworkreachability-g7d>