WiFi library

The firmware for the WiFi shield has changed in Arduino IDE 1.0.5. You are recommended to install this update per these instructions

With the Arduino WiFi Shield, this library allows an Arduino board to connect the internet. It can serve as either a server accepting incoming connections a client making outgoing ones. The library supports WEP and WPA2 Persona encryption, but not WPA2Enterprise. Also note, if the SSID is not broadcast, the shield cannot connect.

Arduino communicates with the WiFi shield using the SPI bus. This is on digit pins 11, 12, and 13 on the Uno and pins 50, 51, and 52 on the Mega. On bot boards, pin 10 is used as SS. On the Mega, the hardware SS pin, 53, is not used but it must be kept as an output or the SPI interface won't work. Digita pin 7 is used as a handshake pin between the Wifi shield and the Arduino, ar should not be used.

The WiFi library is very similar to the Ethernet library, and many of the function calls are the same.

For additional information on the WiFi shield, see the Getting Started page a the WiFi shield hardware page.

WiFi class

The WiFi class initializes the ethernet library and network settings.

begin()

SSID()
BSSID()
RSSI()
encryptionType()
scanNetworks()
getSocket()
macAddress()

IPAddress class

The IPAddress class provides information about the network configuration.

localIP()
subnetMask()
gatewayIP()

Server class

The Server class creates servers which can send data to and receive data fr
connected clients (programs running on other computers or devices).

Server
WiFiServer()
begin()
available()
write()
print()
println()

Client class

The client class creates clients that can connect to servers and send and receive data.

Client
WiFiClient()

print()
println()
available()
read()
flush()
stop()

UDP class

The UDP class enables UDP message to be sent and received.

WiFiUDP
begin()
available()
beginPacket()
endPacket()
write()
parsePacket()
peek()
read()
flush()
stop()
remoteIP()
remotePort()

Examples

ConnectNoEncryption : Demonstrates how to connect to an open network
ConnectWithWEP : Demonstrates how to connect to a network that is encrypted with WEP
ConnectWithWPA : Demonstrates how to connect to a network that is encrypted with WPA2 Personal
ScanNetworks : Displays all WiFi networks in range
WiFiChatServer : Set up a simple chat server
WiFiXivelyClient : connect to xively.com, a free datalogging site
WiFiXivelyClientString: send strings to xively.com

WiFiWebServer : Serve a webpage from the WiFi shield

WiFiSendReceiveUDPString : Send and receive a UDP string

UdpNTPClient : Query a Network Time Protocol (NTP) server using UDP