Arduino library to implement Artnet UPD Protocol to Arduino and ESP

This library allows you to remote control LED's via ArtNet Protocol.

Supported micro-controllers

- ATmega 328 & 1284p (slow)
- Arduino MKR Zero
- boards supported by ESP8266 and ESP32 Arduino boards package

Supported networking libraries

- mostly soll Ethernet and WiFi Libs
- Tested: Ethernet library - Ethernet shields and modules with Wiznet 5100, 5200 and 5500 chips
- Tested: WiFi library of ESP8266 and ESP32 Arduino boards package

Usage / Implementation

This Lib implements the whole ArtNet protocol handling but not the Ethernet /WiFi handling. So a few Software connections must be implemented to run the ArtNet protocol on your microcontroller. A working ethernet / wifi upd library is required Make a new instance with

```
ArtnetLayer artnet(onArtUpdSend, onNetworkRestart);
```

In setup() set the call backfunctions:

```
  artnet.setConfigChangedCallback(onConfigChange);
  artnet.setArtDmxCallback(onArtDmxFrame);
  artnet.begin();
```

In loop() read the incoming UDP Packages and forward to ArtNet layer

```
void loop() {
  int packetSize = Udp.parsePacket();
  if (packetSize > 0 && packetSize <= ART_NET_BUFFER_SIZE) {
    Udp.read(artnet.getPacketBuffer(), ART_NET_BUFFER_SIZE);
    artnet.read(packetSize);
  }

}
```

implement callback fuctions

```
void onArtUpdSend(uint8_t ip[4], uint16_t port, uint8_t* packetData, size_t len,
uint8_t broadcast);
```

Will be called from the ArtNet Stack if a UDP Packet must be send. Make sure the paket will be send asap. Handle UPD Broadcast properly!

```
void onNetworkRestart();
```

Restart the Network Stack (mostly with Upd.Stop()). And restart the UDP Stack Make sure the IP Settings / DHCP Settings from ArtNet Confit are used correctly.

- artnet.nodeConfig.dhcpEnable
- artnet.nodeConfig.ip
- artnet.nodeConfig.subnet

```
void onConfigChange(NODE_CONFIGURATION_T* config);
```

make sure the new configuration is stored properly if needed. e.g. in an EEPROM

```
void onArtDmxFrame(uint8_t* data, uint16_t length, uint8_t sequence);
```

handle the DMX frame proberly and update your leds if needed

Contribution

Please report tested boards and feel free to add Pull Requests