

# Webserver

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# Getting started

This is a simple example, how to use esp\_http\_server - probably there are libraries to handle it different.

Yet this displays how to connect to the Wifi and start a webserver.

And bind a handler to the endpoint "/" - where we reply with a string "hello world"

```
#include "esp_http_server.h"
#include

// Replace with your network credentials
const char* ssid = "YourWifi";
const char* password = "YourPassWord";

httpd_handle_t stream_httpd = NULL;
httpd_handle_t camera_httpd = NULL;

static esp_err_t file_handler(httpd_req_t *req) {

    Serial.printf("File handler");

    char ret_homepage[255] = "";

    strcpy(ret_homepage,"Hello world");

    /* Set some custom headers */
    httpd_resp_set_hdr(req, "Connection", "close");
    httpd_resp_set_hdr(req, "Cache-Control", "no-cache");

    /* Send response with custom headers and body set as the
     * string passed in user context*/
    const char *resp_str = (const char*) ret_homepage;

    Serial.print(ret_homepage);
    httpd_resp_send(req, resp_str, HTTPD_RESP_USE_STRLEN);
    ESP_LOGI(TAG, "Response sent for home page request.Time:%s",esp_log_system_timestamp());
    return ESP_OK;
}

void StartServer(){
    httpd_config_t config = HTTPD_DEFAULT_CONFIG();
    config.server_port = 80;

    httpd_uri_t index_uri = {
        .uri      = "/",
        .method    = HTTP_GET,
        .handler   = file_handler,
        .user_ctx  = NULL
    }
```

```

};

Serial.printf("Starting server on port: '%d'\n", config.server_port);
if (httpd_start(&stream_httpd, &config) == ESP_OK) {
    httpd_register_uri_handler(stream_httpd, &index_uri);
}
}

void setup() {
    Serial.begin(115200);
    Serial.setDebugOutput(true);
    Serial.println("Started");

    Serial.println("Wifi");
    // Wi-Fi connection
    WiFi.begin(ssid, password);
    while (WiFi.status() != WL_CONNECTED) {
        delay(500);
        Serial.print(".");
    }
    Serial.println("");
    Serial.println("WiFi connected");

    Serial.print("Camera Stream Ready! Go to: http://");
    Serial.println(WiFi.localIP());

    Serial.println("Start Server");
    StartServer();
}

void loop() {
    Serial.println("Loop");
    //s_listFiles("/sdcard");
    // captureImage();
    delay(10000);
}

```

# Read querystring

Alter the config, so the uri\_match\_fn is wildcard match

```
httpd_config_t config = HTTPD_DEFAULT_CONFIG();
config.server_port = 80;
config.uri_match_fn = httpd_uri_match_wildcard;

    httpd_uri_t index_uri = {
        .uri      = "/*",
        .method    = HTTP_GET,
        .handler   = file_handler,
        .user_ctx  = NULL
    };
```

In the file handler, one can now start to retrieve the query string url.com?test=anser

```
char query[100];
size_t query_len = sizeof(query);
// Get the query string
if (httpd_req_get_url_query_str(req, query, query_len) == ESP_OK) {
    ESP_LOGI(TAG, "Found URL query => %s", query);

    // Parse specific query parameters
    char param[32];
    if (httpd_query_key_value(query, "param", param, sizeof(param)) == ESP_OK) {
        ESP_LOGI(TAG, "Found URL query parameter => param=%s", param);
    }
}
```

This comes together in this sample:

```
#include "esp_http_server.h"
#include
static const char *TAG = "example";
// Replace with your network credentials
const char* ssid = "YourWifi";
const char* password = "YourPass";

httpd_handle_t stream_httpd = NULL;
httpd_handle_t camera_httpd = NULL;
```

```

static esp_err_t file_handler(httpd_req_t *req) {

char query[100];
    size_t query_len = sizeof(query);
    // Get the query string
    if (httpd_req_get_url_query_str(req, query, query_len) == ESP_OK) {
        ESP_LOGI(TAG, "Found URL query => %s", query);

        // Parse specific query parameters
        char param[32];
        if (httpd_query_key_value(query, "param", param, sizeof(param)) == ESP_OK) {
            ESP_LOGI(TAG, "Found URL query parameter => param=%s", param);
        }
    }
    Serial.printf("File handler");

    char ret_homepage[255] = "";

    strcpy(ret_homepage,"Hello world");

    /* Set some custom headers */
    httpd_resp_set_hdr(req, "Connection", "close");
    httpd_resp_set_hdr(req, "Cache-Control", "no-cache");

    /* Send response with custom headers and body set as the
    * string passed in user context*/
    const char *resp_str = (const char*) ret_homepage;

    Serial.print(ret_homepage);
    httpd_resp_send(req, resp_str, HTTPD_RESP_USE_STRLEN);
    ESP_LOGI(TAG, "Response sent for home page request.Time:%s",esp_log_system_timestamp());
    return ESP_OK;
}

void StartServer(){
    httpd_config_t config = HTTPD_DEFAULT_CONFIG();
    config.server_port = 80;
    config.uri_match_fn = httpd_uri_match_wildcard;

    httpd_uri_t index_uri = {
        .uri      = "/*",
        .method    = HTTP_GET,
        .handler   = file_handler,
        .user_ctx  = NULL
    };

    Serial.printf("Starting server on port: '%d'\n", config.server_port);
    if (httpd_start(&stream_httpd, &config) == ESP_OK) {
        httpd_register_uri_handler(stream_httpd, &index_uri);
    }
}

```

```
void setup() {
  Serial.begin(115200);
  Serial.setDebugOutput(true);
  Serial.println("Started");

  Serial.println("Wifi");
  // Wi-Fi connection
  WiFi.begin(ssid, password);
  while (WiFi.status() != WL_CONNECTED) {
    delay(500);
    Serial.print(".");
  }
  Serial.println("");
  Serial.println("WiFi connected");

  Serial.print("Camera Stream Ready! Go to: http://");
  Serial.println(WiFi.localIP());

  Serial.println("Start Server");
  StartServer();
}

void loop() {
  Serial.println("Loop");
  //s_listFiles("/sdcard");
  // captureImage();
  delay(10000);
}
```