

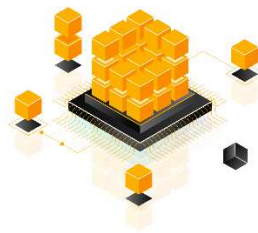


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# DESIGN OF WEB SERVER FOR EDGE DEVICE

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From Web server to Edge Device



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## Revisions

Revision	Date	Change	Author
v1.0	2023/06/14	The draft of design of web server	Van Wu



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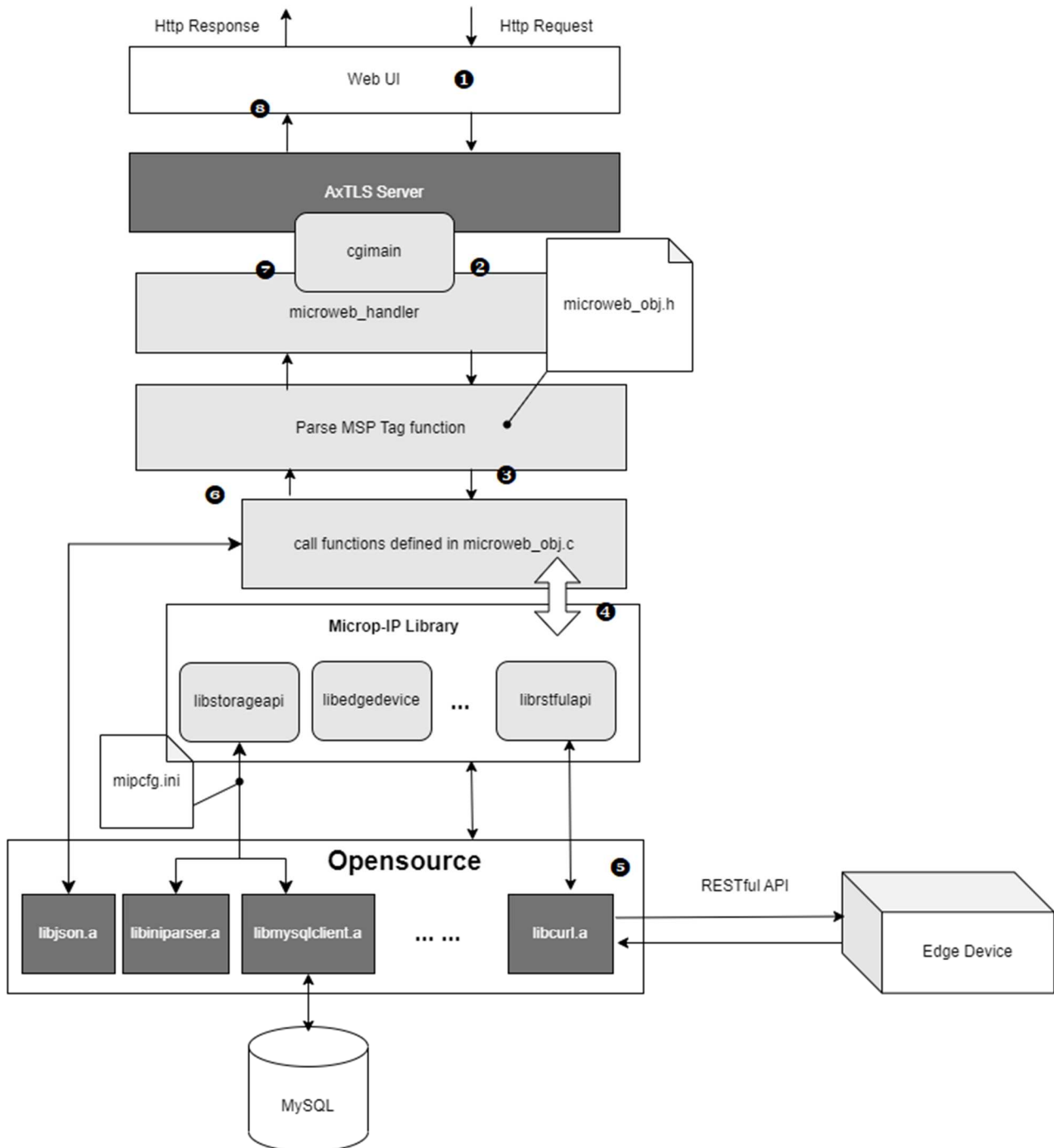
# Chapter 1. Web server for Edge Device

This chapter would will provide a brief introduction to the operating environment and Software architecture of Web server dedicated to Edge device;

## Section 1.1 Overview

## Section 1.2 Software Architecture of Web server

The software architecture of Web server is as below picture,



Based on the software architecture diagram above, we can briefly describe the process of how our Web Server operates in a few steps; See the following steps, ❶ ~ ❸ :

- ❶ When user sent a **HTTP** request using **GET** method to ask a web page from our web server, this request would be handled by web server, **AxTLS** Server, which is an embedded opensource web server;
- ❷ If the file extension of web page user asked is ".msp", the web server, **AxTLS** would pass this request to **CGI** program we developed; Web pages with file extension ".msp" means "**Micro-IP** server pages"; Only our **CGI** program can recognize this kind of web page because it is created by **Micro-IP**;
- ❸ After parsing web page with file extension ".msp", our **CGI** program would call the corresponding to function according to web objects called by web page and defined in *microweb\_obj.h*;
- ❹ According to different requests, our **CGI** program would call different functions defined in different **Micro-IP** libraries, such as *libstorageapi.a*, *librstfulapi.a*, *libedgedevice.a* and son on;
- ❺ If request of user is to control/access a specific Edge device, our **CGI** program will call **RESTful API** provided by Edge Device via sending **HTTP** request and get result via receiving **HTTP** response;
- ❻ Therefore, the result from **Micro-IP** libraries (Maybe it is from **RESTful API** or **MySQL**) would be passed to parsing function in our **CGI** program;
- ❼ Next, **CGI** program would update web page user asked;
- ❽ Finally, the updated web page would be received by browser in client side and shown to user;

In the next chapter, we would introduce our **Web UI** design and behaviors of **RESTful API** in accordance with **Web GUI**;



## Chapter 2. Functional Description of Web GUI

In fact, the behavior of our RESTful APIs is closely related to the design of our Web GUI. Therefore, in the chapter, we will introduce the design of our Web GUI and how it corresponds to different functions of RESTful APIs based on user interactions.

### Section 2.1 UI Design on Web Server

After login,



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## Section 2.2 Web GUI and RESTful API