

Lab3

NYCU Go Programming 2024

2024/10/08

Client / User



Server



Listening

A diagram showing a connection labeled 'Listening' between the 'Port' and 'Web Server' components, indicated by a double-headed arrow.

Client / User

Browser

HTTP request

Port

Listening

Server

Web
Server

Front End

Back End

Client / User



Response

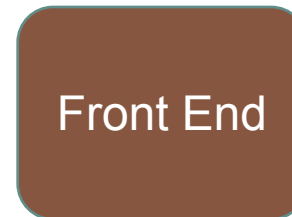
Label for the response arrow pointing from the Port to the Browser.

Server

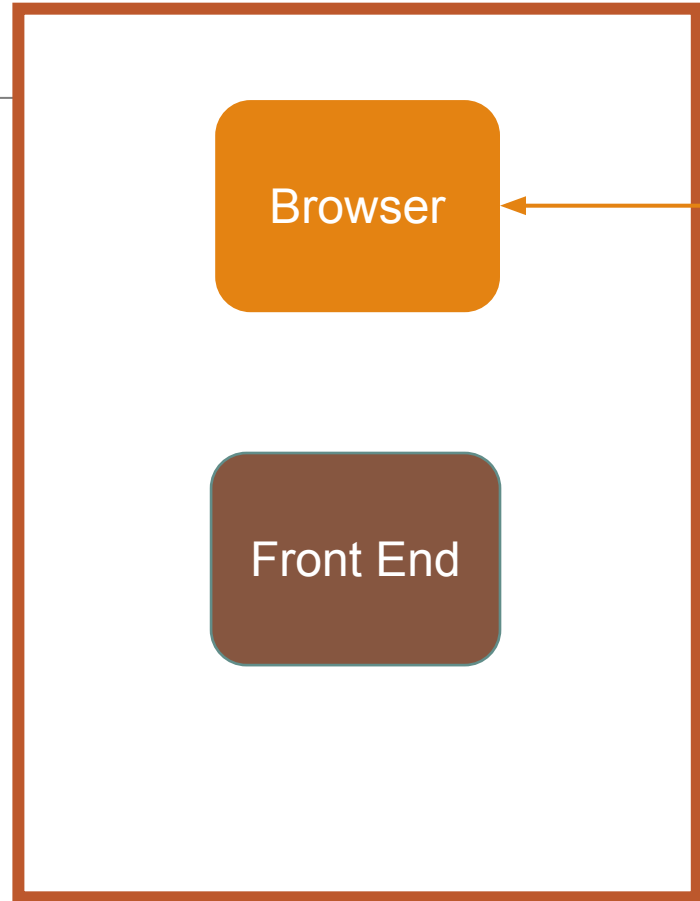


Listening

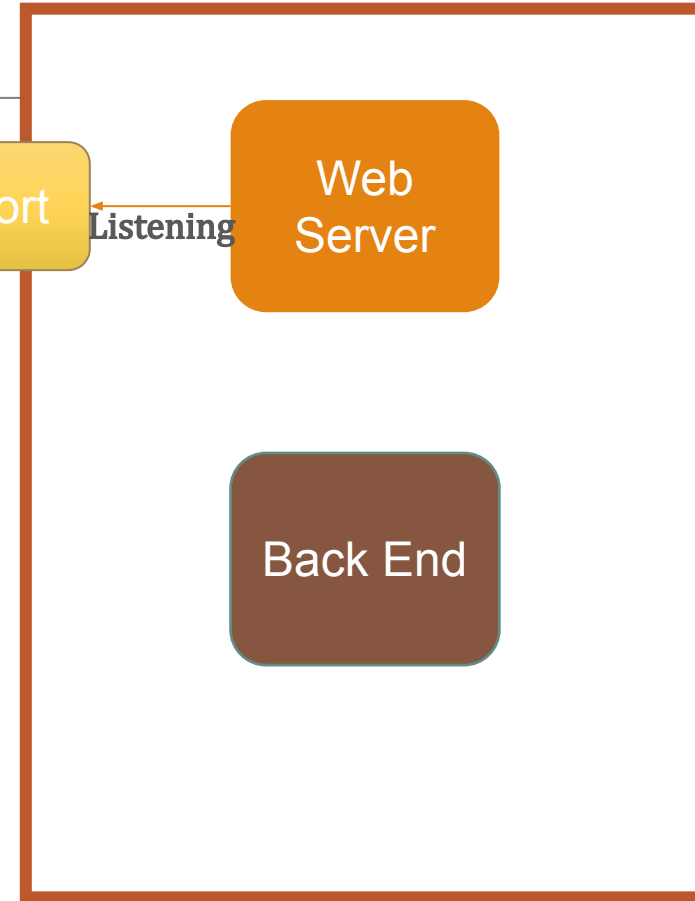
Label for the listening arrow pointing from the Web Server to the Port.



Client / User



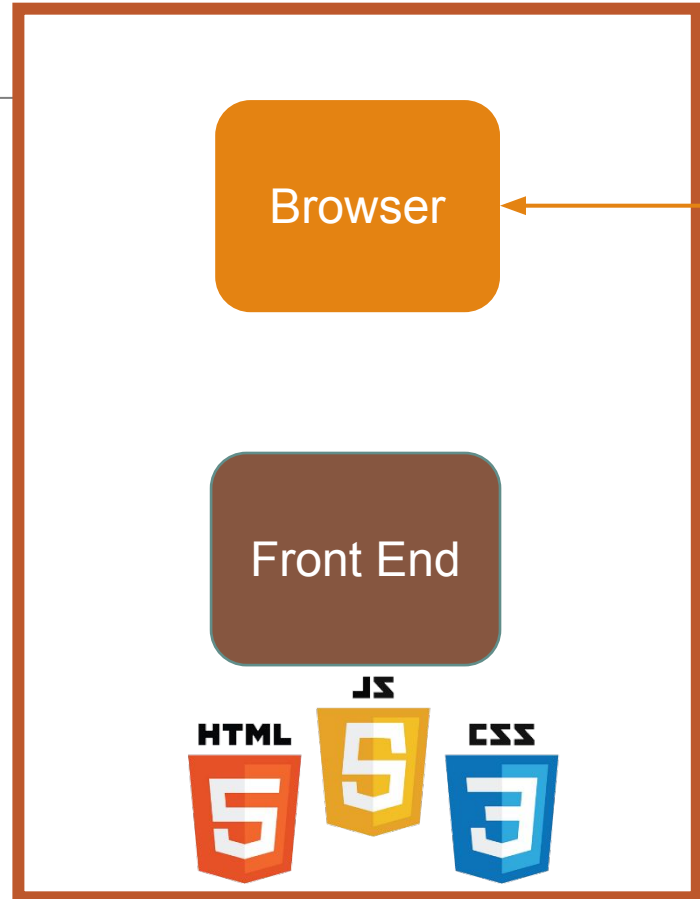
Server



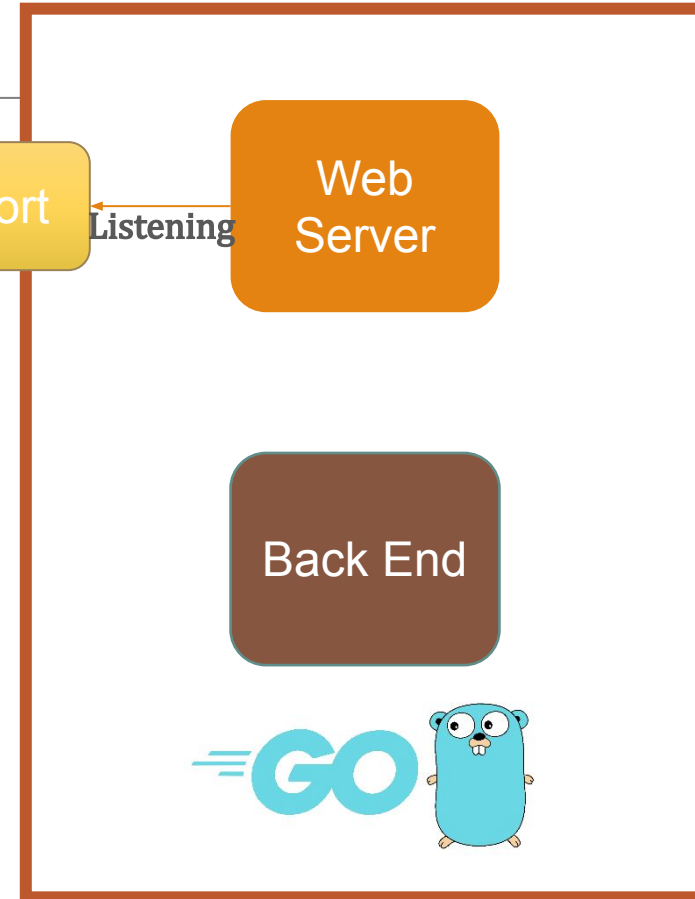
Response

Listening

Client / User



Server



Response

Listening

Press F12 in your browser

The screenshot displays the National Chiao Tung University (NCTU) homepage. The browser's developer tools are open, showing the Network tab. The network log lists 42 requests, including HTML, CSS, JS, and fonts. The status bar at the bottom indicates 42 requests, 2.18 MB / 52.19 KB transferred, and a total load time of 1.10 seconds.

Status	Method	Domain	File	Cause	Type	Transferred	Size	0 ms	320 ms	640 ms	960 ms	1.28 s
200	GET	www.nctu.edu.tw	/	document	html	26.79 KB	26.42 KB	544 ms				
304	GET	www.nctu.edu.tw	k2.css	stylesheet	css	cached	48.59 KB	3 ms				
304	GET	www.nctu.edu.tw	style.css	stylesheet	css	cached	606 B	3 ms				
304	GET	www.nctu.edu.tw	style.css	stylesheet	css	cached	212 B	2 ms				
304	GET	www.nctu.edu.tw	slideshow.css	stylesheet	css	cached	3.34 KB	3 ms				
304	GET	www.nctu.edu.tw	style.css	stylesheet	css	cached	947 B	3 ms				
304	GET	www.nctu.edu.tw	mootools-core.js	script	js	cached	94.10 KB	2 ms				
304	GET	www.nctu.edu.tw	core.js	script	js	cached	4.67 KB	3 ms				
304	GET	www.nctu.edu.tw	jquery-1.8.3.min.js	script	js	cached	91.44 KB	3 ms				
304	GET	www.nctu.edu.tw	k2.js?v2.6.7&sitepath=/	script	js	cached	5.36 KB	3 ms				
304	GET	www.nctu.edu.tw	caption.js	script	js	cached	729 B	2 ms				
304	GET	www.nctu.edu.tw	mootools-more.js	script	js	cached	232.75 KB	3 ms				
304	GET	www.nctu.edu.tw	mootools-mobile.js	script	js	cached	4.37 KB	2 ms				
304	GET	www.nctu.edu.tw	rokmediaqueries.js	script	js	cached	2.93 KB	2 ms				
304	GET	www.nctu.edu.tw	roksprocket.js	script	js	cached	976 B	3 ms				
304	GET	www.nctu.edu.tw	moofx.js	script	js	cached	24.68 KB	2 ms				
304	GET	www.nctu.edu.tw	features.js	script	js	cached	7.51 KB	2 ms				
304	GET	www.nctu.edu.tw	slideshow.js	script	js	cached	2.15 KB	3 ms				
304	GET	www.nctu.edu.tw	jquery.easing.min.js	script	js	cached	3.52 KB	3 ms				
304	GET	www.nctu.edu.tw	jqttopofthepage.min.js	script	js	cached	2.73 KB	4 ms				
304	GET	www.nctu.edu.tw	toggle-menu-fix.js	script	js	cached	0 B	3 ms				
304	GET	www.nctu.edu.tw	style.css	stylesheet	css	cached	2.01 KB	3 ms				
304	GET	www.nctu.edu.tw	system.css	stylesheet	css	cached	896 B	3 ms				
304	GET	www.nctu.edu.tw	general.css	stylesheet	css	cached	2.67 KB	3 ms				
200	GET	www.nctu.edu.tw	template.css?20191106152834	stylesheet	css	17.21 KB	16.91 KB	4 ms				
200	GET	fonts.googleapis.com	css?family=Roboto+Slab:300,400	stylesheet	css	1.15 KB	4.79 KB	12 ms				

42 requests | 2.18 MB / 52.19 KB transferred | Finish: 1.15 s | DOMContentLoaded: 965 ms | load: 1.10 s

URL

- URL = protocol://host:port/path
- Example: <http://localhost:8083/add/1/1>

func HandleFunc(pattern string, handler
func(ResponseWriter, *Request))

- HandleFunc registers the handler function for the given pattern in the DefaultServeMux.

func ListenAndServe(addr string, handler Handler) error

- ListenAndServe listens on the TCP network address addr and then calls Serve with handler to handle requests on incoming connections.
- The handler is typically nil, in which case the DefaultServeMux is used.

Request

`r.URL.Path`

ResponseWriter

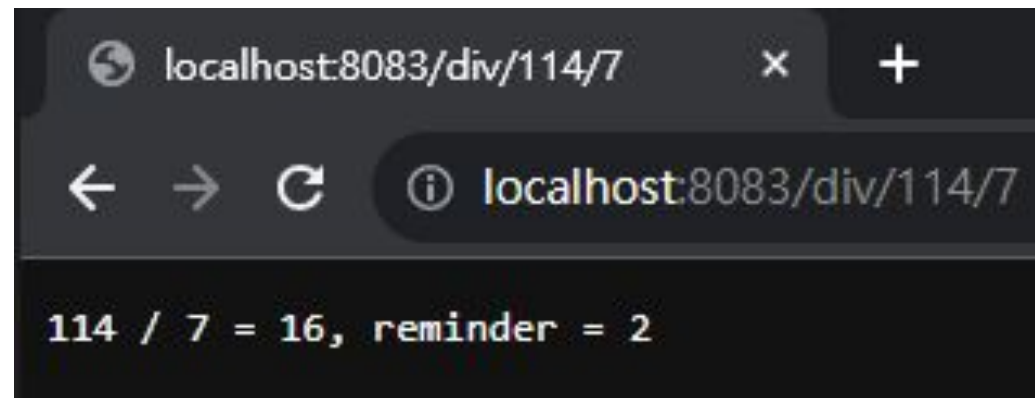
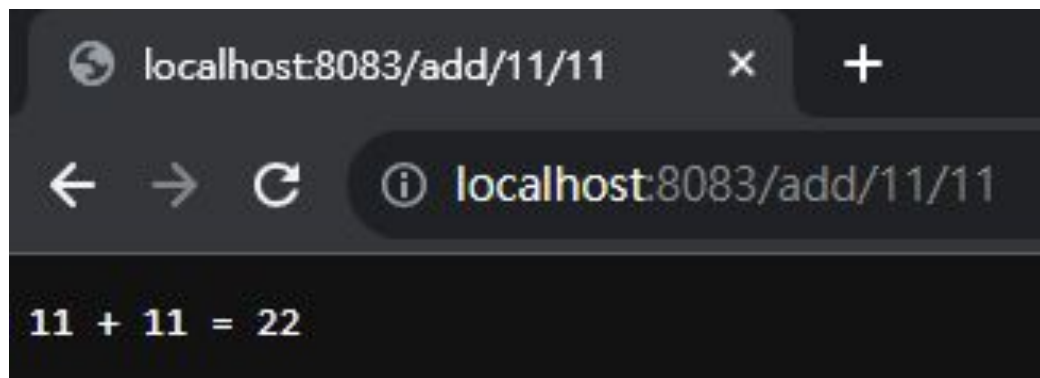
- Content-Type: text/plain
 - If the Header does not contain a Content-Type line, Write adds a Content-Type set to the result of passing the initial 512 bytes of written data to DetectContentType.
- Interface
 - func Fprintf(w io.Writer, format string, a ...any) (n int, err error)

Lab03 Simple web calculator

撰寫一個計算機，網址格式如下

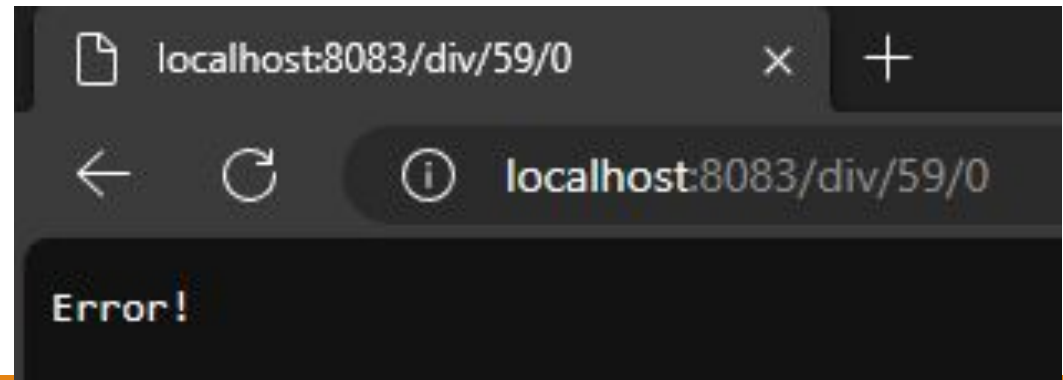
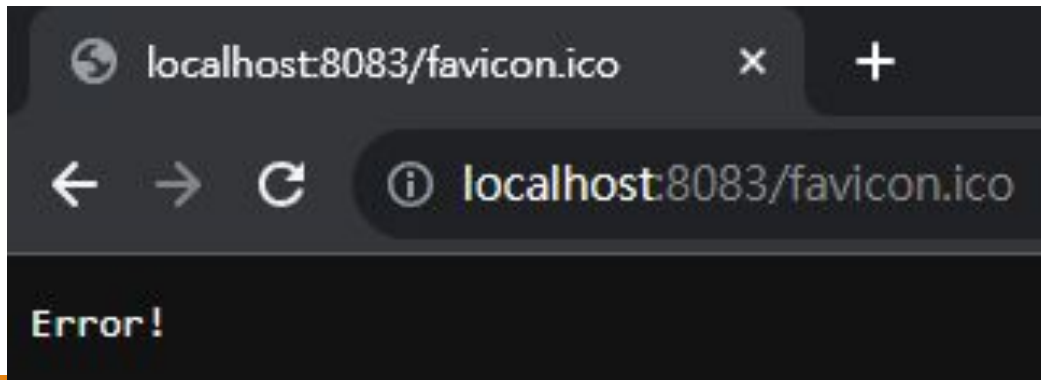
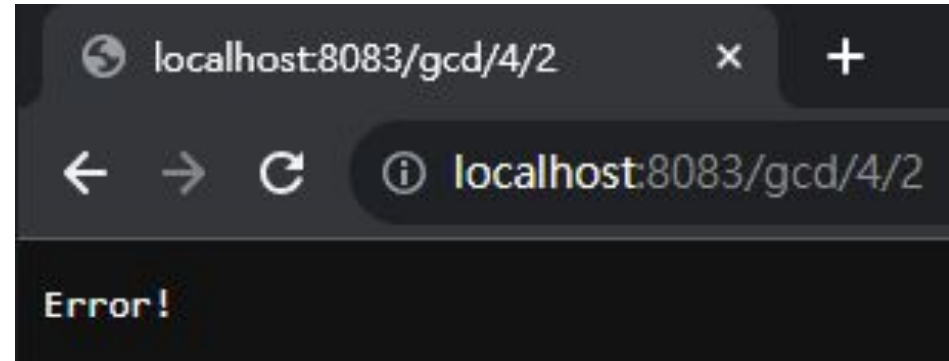
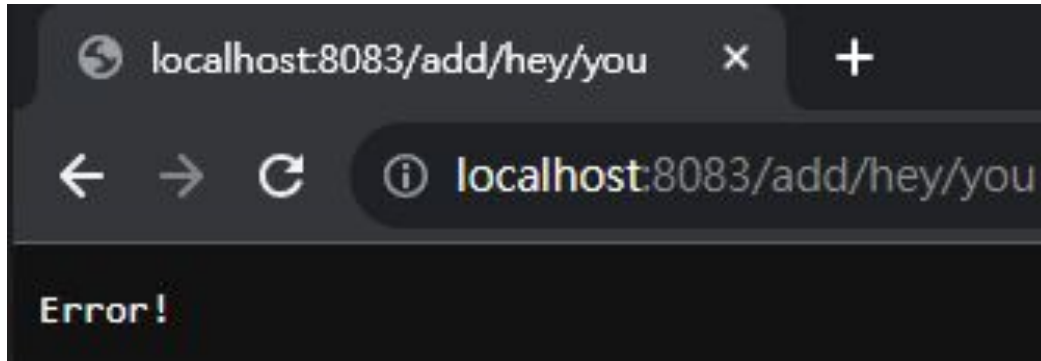
`http://localhost:8083/operation/num1/num2`

Operation: add / sub / mul / div



Lab03 Simple web calculator

若格式不符, 顯示「Error!」



Lab03 Simple web calculator

1. 新增目錄 lab3 - `$mkdir lab3`
2. 移動至 lab3 - `$cd lab3`
3. `$go mod init lab3`
4. 加入 lab3.go 與 lab3_test.go
5. 完成 lab3.go 中的函數 Calculator()
6. `$go mod tidy`
7. `$go run .` 然後在 browser 嘗試連線
8. `$go test`
9. 在 .github/workflows 裡面加入 lab3.yml
10. 上傳至 GitHub 並繳交連結