

DEBUGGING

WHAT?

DEBUGGING IS FIXING
PROBLEMS IN CODE

WHY?

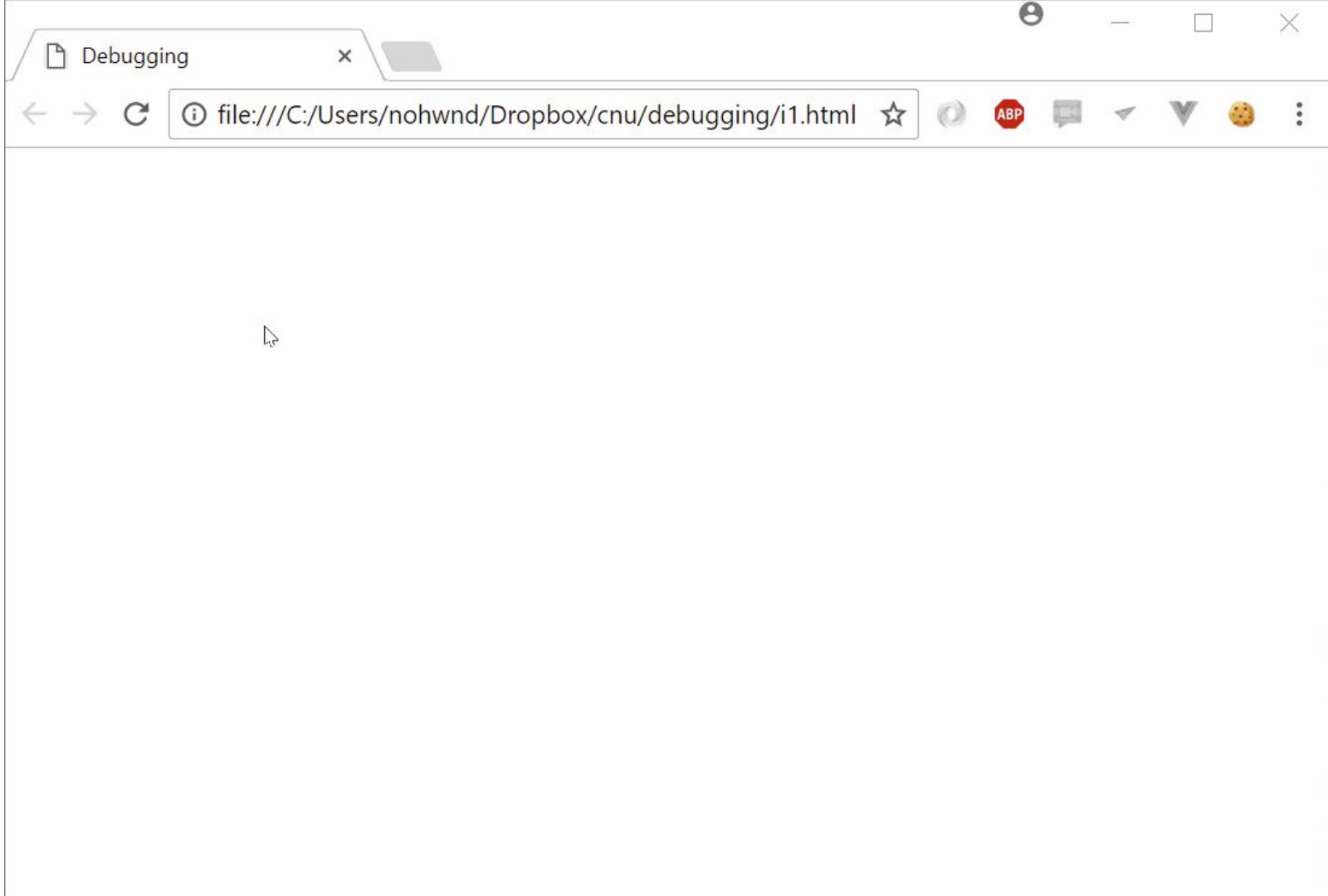
50% - 80% OF YOUR TIME
WILL BE SPENT DEBUGGING

IT IS A GREAT LEARNING TOOL

IT HELPS YOU SOLVE PROBLEMS
YOURSELF

COMMON DEBUGGER FEATURES

DEBUGGER



BREAKPOINTS

Debugging

file:///C:/Users/nohwnd/Dropbox/cnu/debugging/i1.html

Elements

Console

Sources

Network

Performance

Memory

Network

Filesystem

i1.html

examples.js

top

file://

C:/Users/nohwnd/Dropbox/cnu

i1.html

examples.js

1 (function () {

2

3 console.log('stop right here!')

4

5 })();

{ }

Line 5, Column 6

Pretty print

Scope

Watch

Call Stack

Not paused

Breakpoints

examples.js:6

XHR/fetch Breakpoints

DOM Breakpoints



Global Listeners

Event Listener Breakpoints

STEP INTO

Debugging

file:///C:/Users/nohwnd/Dropbox/cnu/debugging/i2.html

Paused in de...  

Elements Console Sources Network Performance Memory

Network Filesystem

top
file://
C:/Users/nohwnd/Dropbox/cnu
i2.html
examples2.js

```
1  
2 function grandParent () {  
3     parent();  
4 }  
5  
6 function parent() {  
7     child();  
8 }  
9  
10 function child() {  
11     console.log("Hello!")  
12 }  
13  
14 while (true) {  
15     grandParent();  
16 }  
17  
18  
19
```

Line 15, Column 5

Scope Watch

STEP OVER

Debugging

file:///C:/Users/nohwnd/Dropbox/cnu/debugging/i2.html

Paused in de...

Elements

Console

Sources

Network

Performance

Memory

Network

Filesystem

top

file://

C:/Users/nohwnd/Dropbox/cnu

i2.html

examples2.js

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

function grandParent () {
parent();
}
function parent() {
child();
}
function child() {
console.log("Hello!");
}
while (true) {
grandParent();
}

{ } Line 15, Column 5

Scope

Watch

CALL STACK

```

1
2 function grandParent () {
3     parent();
4 }
5
6 function parent() {
7     child();
8 }
9
10 function child() {
11     console.log("Hello!");
12 }
13
14 while (true) {
15     grandParent();
16 }
17
18
19

```

Debugger paused

► Watch

▼ Call Stack

child	examples2.js:12
parent	examples2.js:7
grandParent	examples2.js:3
(anonymous)	examples2.js:15

▼ Scope

Local
Return value: undefined
► this: Window
► Global Window

▼ Breakpoints

- ☒ examples2.js:11
console.log("Hello!");
- ☒ examples2.js:15
grandParent();

► XHR/fetch Breakpoints

► DOM Breakpoints

► Global Listeners

STACK TRACE

Developer Tools - file:///C:/Users/nohwnd/Dropbox/cnu/debugging/i4.html

Elements Console Sources Network Performance Memory Application Security » 1

examples4.js x

```
1
2 function grandParent () {
3   parent();
4 }
5
6 function parent() {
7   child();
8 }
9
10 function child() {
11   throw "something bad happened";
12 }
13
14
15 grandParent();
16
```

Line 11, Column 13

Watch
Call Stack
Not paused
Scope
Not paused
Breakpoints
No breakpoints
XHR/fetch Breakpoints
DOM Breakpoints
Global Listeners
Event Listener Breakpoints

Console What's New

top Filter Default levels Group similar

Uncaught something bad happened examples4.js:11

child @ examples4.js:11
parent @ examples4.js:7
grandParent @ examples4.js:3
(anonymous) @ examples4.js:15

> |

VARIABLE INSPECTION

```

1 function sayHello(name){ name = "Martin"
2
3     let greeting = "Hello, "; greeting = "Hello, "
4
5     return greeting + name;
6 }
7
8 sayHello("Martin")
9
10

```

Paused on breakpoint

Watch

Call Stack

sayHello	examples3.js:5
(anonymous)	examples3.js:8

Scope

Local

```

greeting: "Hello, "
name: "Martin"
this: Window

```

Global Window

Breakpoints

☒ examples3.js:5
return greeting + name;

XHR/fetch Breakpoints

DOM Breakpoints

Global Listeners

Event Listener Breakpoints

WATCHES, COUNTERS, CONDITIONAL BREAKPOINTS,
PAUSE BUTTON, EXCEPTION SETTINGS, EVENT
HANDLER HOOKS ETC.

SOME PRO
TIPS?

TAKE IT SLOW

DON'T GUESS

FORM HYPOTHESIS

TEST IT

WRITE NOTES

REPEAT

(WRITE A TEST)

DOES NOT
HELP?

TAKE A BREAK

TALK TO YOURSELF

TALK TO OTHERS

ASK FOR BETTER TOOLS

GIVE UP :)

QUESTIONS?