

Front End Introduction



Mark MacCabe

<https://www.linkedin.com/in/mmaccabe/>

- BA in Information Systems, Minor Computer Science
- 15+ years of experience in IT
- Background in:
 - Many programming languages
 - Project/Account Management
 - AI/ML
 - Sales/ Pre-Sales Engineering
 - Robotics
- Currently working at ReTech Labs as a Director of Customer Success



First Programming Languages: Basic & Pascal

A screenshot of a Turbo Pascal IDE. The main window shows a code editor with the following code:

```
const
  MaxAttributes = 8;

type
  TPCCharArray = array[0..MaxAttributes-1] of Byte;
  PPCharArray = ^TPCCharArray;

PrinterCodes = ^TPCCharArray;
PrinterCodes = re
  { Number of pr
  PreambleCount: B
  { Pointer to a
  this printer
  Preamble: PPChar
  { Pointer to a
  changing the
  CodeArray: PPCha
  { Array of indexes into the CodeArray corresponding to attributes
  supported for this printer. }
  Attributes: array[0..MaxAttributes-1] of Byte;
  { Codes sent at the start of a page. }
  75:1
```

The IDE has a menu bar with 'File', 'Edit', 'Search', 'Run', 'Compile', 'Debug', 'Tools', 'Options', 'Window', and 'Help'. A dialog box titled 'about' is open in the foreground, displaying the following text:

about
Turbo Pascal
Version 7.0
Copyright (c) 1983,92 by
Borland International, Inc.
OK



Jordan Herzig

- BA in Computer Information Technology
- 12 years of experience in IT
- Background in:
 - HTML, CSS, JavaScript, .NET, Angular, Python
 - Project Management
 - Customer Success
 - Robotics
 - Artificial Intelligence/Machine Learning
- Currently working at ReTech Labs as a Sr. Solution Manager



Meet the Class





Introductions

- Name
- Coding Experience
- What is your reason for taking this course?
- Hobby



Class Structure

Tuesday @ 5:30pm CST - 2 hours

- 50 minutes of lecture

- 10 minute break

- 60 applying what we learned to code

Thursday @ 5:30pm CST - 2 hours

- 2 hour coding assignment

Friday @ 4:00 / 5:30 Whatever pm CST - 1 hour

- 1 hour “open door” for anyone to join and ask questions

Need Help? Send Mark-M or Jordan-H a message on Slack to setup a time!



Passing the Class

- Attendance
- Final Project



What to expect from Front End Development Course

- Introduction to Programming
- Learn HTML development
- Learn CSS development
- Learn Javascript development
- How to connect to APIs
- Database structures
- How to build scalable web pages for a range of devices
- Design philosophies for user experience
- Deploying your website to the cloud





Class Syllabus and Main Site

<https://winter2024.uoadev.com/>



Goals for tonight

- Get setup in slack
- Overview of the coding “languages” we will be learning in the coming weeks
- Get setup to code
- Post your first webpage!



Slack Setup

<https://slack.com/downloads/>

Programming Intro





HTML

- HTML stands for Hyper Text Markup Language
- HTML is the standard language used for web pages
- HTML is made up of elements
- HTML tells a browser (chrome, firefox, edge, safari) how to display content
- HTML elements label pieces of content (example: paragraphs, headings, links, etc)

```
<!DOCTYPE html>
<html>
<head>
<title>Page Title</title>
</head>
<body>

<h1>This is a Heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```



CSS

- CSS stands for Cascading Style Sheets
- CSS tells pieces of HTML code how to be displayed on a webpage
- CSS can control multiple web pages at once

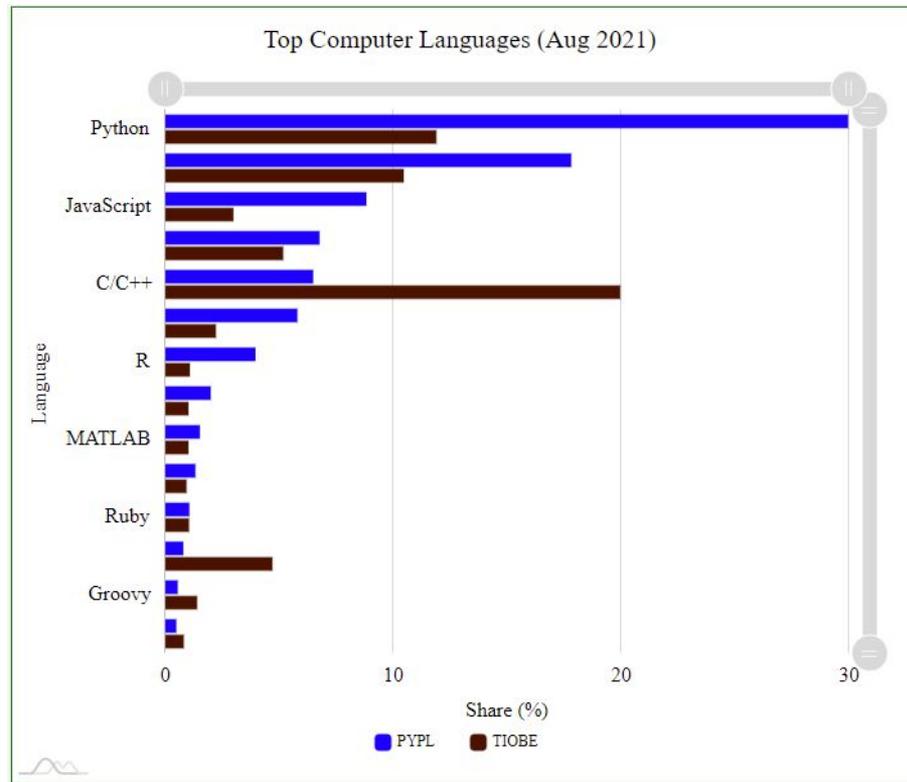
```
body {  
  background-color: blue;  
}
```

```
h1 {  
  color: red;  
}
```

```
p {  
  font-size: 15px;  
}
```

Javascript

- Javascript was invented in 1995 by Brendan Eich
- It is currently the 2nd most popular coding language used today
- Javascript is used to manipulate features on a web page
 - Show/Hide content based on permissions
 - Capture user input
 - Run animations
 - Basically it does all the work!



Getting Setup to Code





What is an IDE?

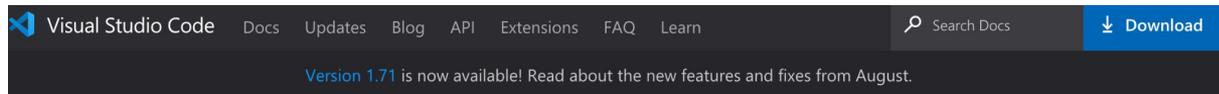
- IDE stands for integrated development environment
- It is a program or software you use to write code
- Some popular IDEs are:
 - Visual Studio Code
 - Visual Studio
 - Eclipse
 - NetBeans
 - Xcode
- The IDE you chose typically is related to the coding language you are using
- For this class we will use Visual Studio Code

Let's get it installed!



Visual Studio Code setup

<https://code.visualstudio.com/>



Download Visual Studio Code

Free and built on open source. Integrated Git, debugging and extensions.



↓ Windows

Windows 8, 10, 11

User Installer [64 bit](#) [32 bit](#) [ARM](#)
System Installer [64 bit](#) [32 bit](#) [ARM](#)
.zip [64 bit](#) [32 bit](#) [ARM](#)



↓ .deb

Debian, Ubuntu

↓ .rpm

Red Hat, Fedora, SUSE

.deb [64 bit](#) [ARM](#) [ARM 64](#)
.rpm [64 bit](#) [ARM](#) [ARM 64](#)
.tar.gz [64 bit](#) [ARM](#) [ARM 64](#)
[Snap Store](#)



↓ Mac

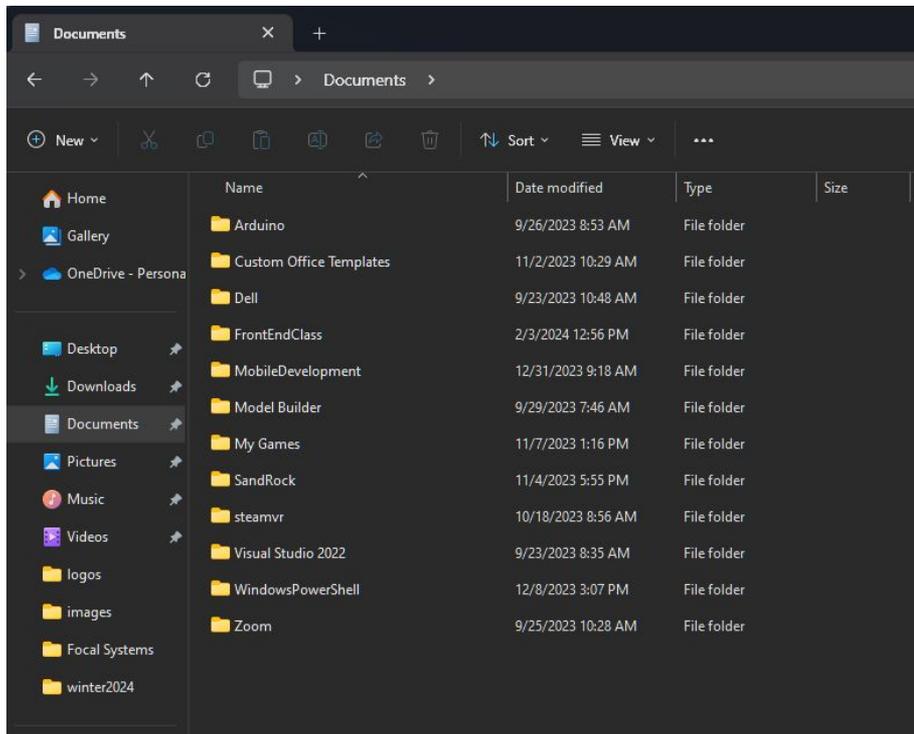
macOS 10.11+

.zip [Universal](#) [Intel Chip](#) [Apple Silicon](#)



Creating a project space

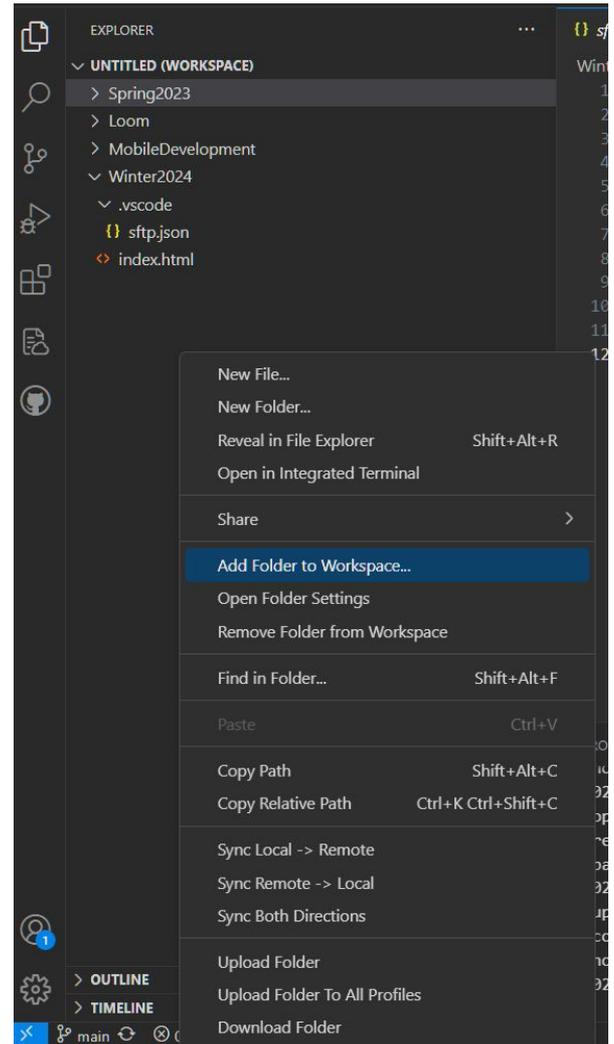
Open File Explorer and create a new folder in your documents called FrontEndClass (ALL one word no spaces!!)





Add folder to workspace

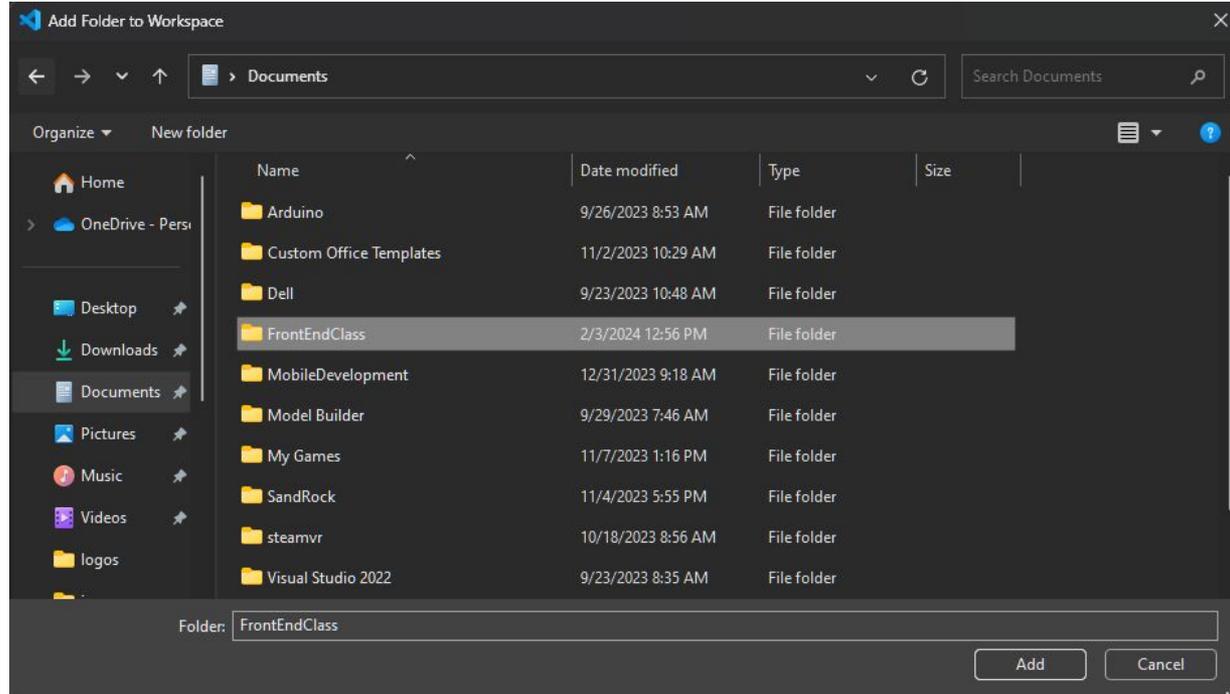
Right click in the empty space in visual studio code and select “Add Folder to Workspace”





Add folder

Navigate to where you made your folder and select Add



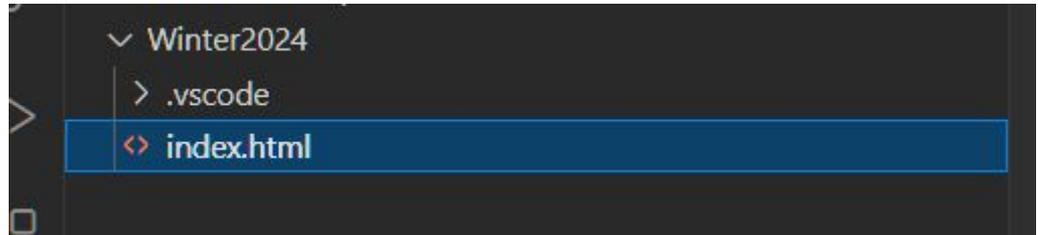
**Make your first
webpage!**





Create first file

Right click under the folder and select new file. Name it index.html





Your first HTML File

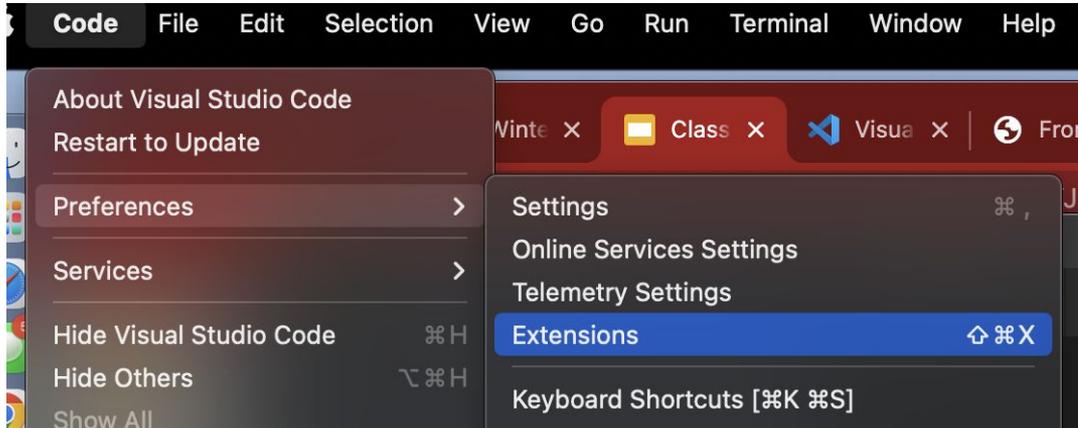
```
<!DOCTYPE html>  
  
<html>  
  
  <body>  
  
    <p>This will appear on the page</p>  
  
  </body>  
  
</html>
```



Prepare to Publish!

FTP - File Transfer Protocol

1. Navigate to Extensions in VS Code

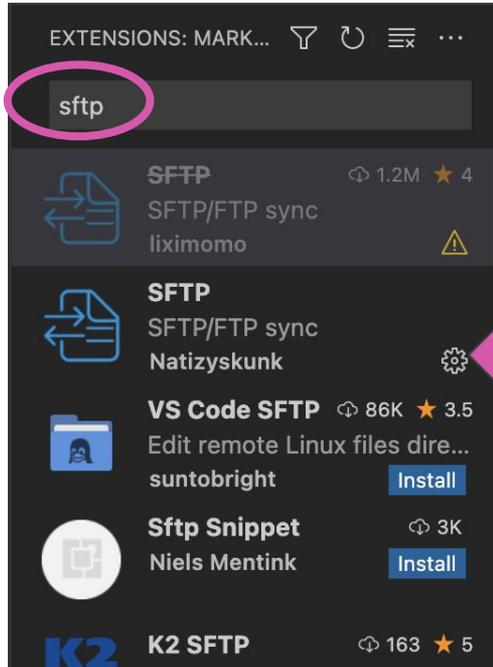




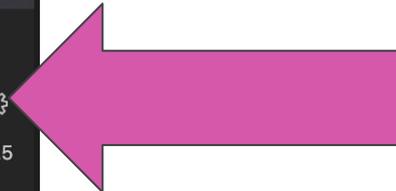
Prepare to Publish!

2. Search for FTP in the extensions sidebar

3. Search for “sftp” in the extensions sidebar.



4. Click blue “Install” button on the version by Natizyskunk

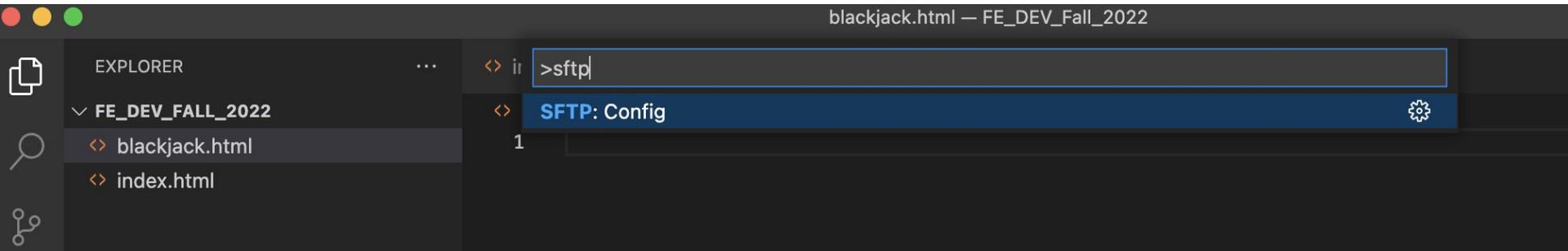




Prepare to Publish!

5. Once installed, hit cmd+shift+p (pc: ctrl+shift+p)

6. Type in SFTP, and select the SFTP:Config option





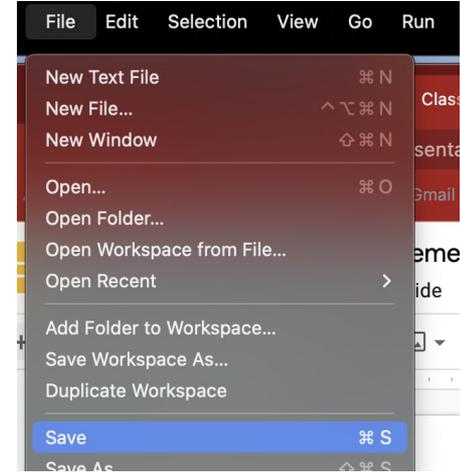
Prepare to Publish!

7. Configure your connection to the server

8. SAVE!

```
{  
  "name": "uoadev.com",  
  "host": "winter2024.uoadev.com",  
  "protocol": "sftp",  
  "port": 22,  
  "secure": true,  
  "username": "FrontEndClass",  
  "remotePath": "/winter2024/pages/jordan-h",  
  "password": "PeanutButter23",  
  "uploadOnSave": true,  
  "secureOptions": { "rejectUnauthorized": false }  
}
```

8. Save!!!!!!



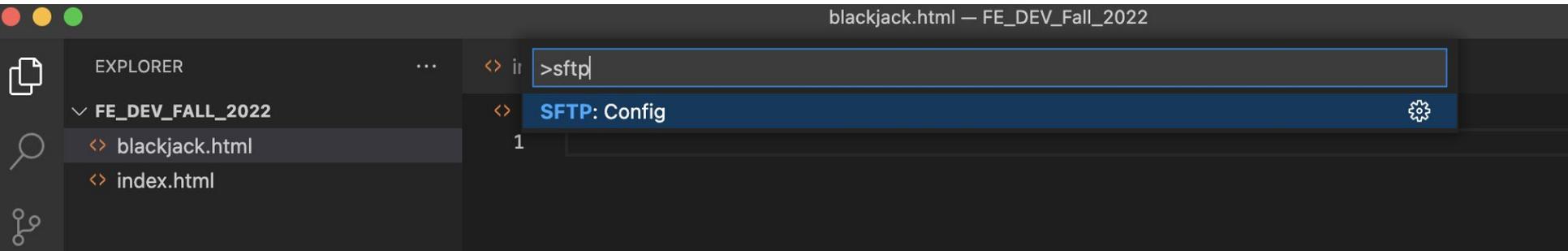
Change to yourFirstName-lastInitial



Prepare to Publish!

5. Once installed, hit cmd+shift+p (pc: ctrl+shift+p)

6. Type in SFTP, and select the SFTP:Config option



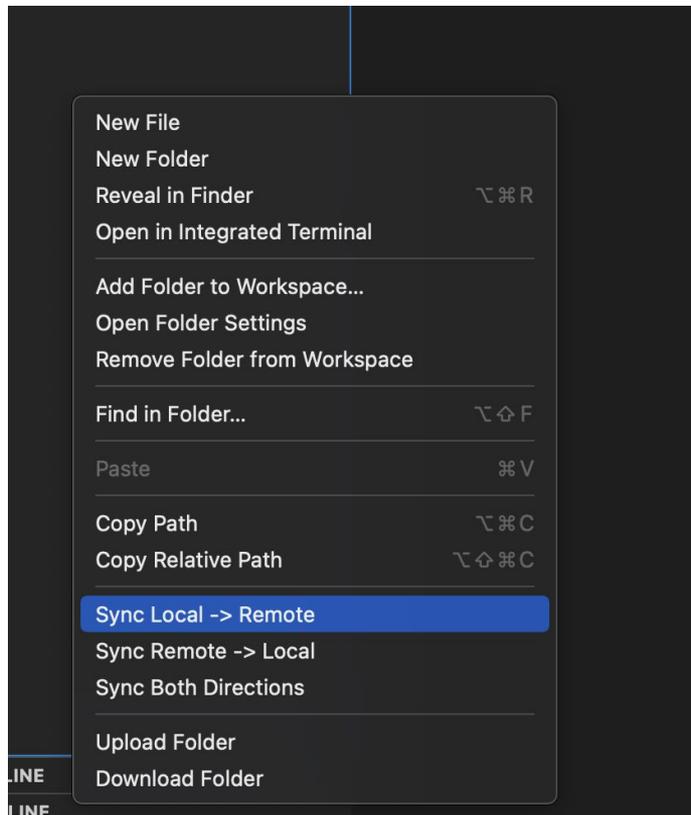


Publish your Website!

Local

Vs.

Remote





Did it Work?

Check the console in VS Code

The screenshot shows the VS Code terminal window with the 'OUTPUT' tab selected. The terminal title is 'sftp'. The output contains the following log entries:

```
"interactiveAuth":false,"secure":true,"remoteTimeOffsetInHours":0,"name":"somewhatchicken.com","host":"somewhatchicken.com",
"port":21,"username":"*****","password":"*****","secureOptions":{"rejectUnauthorized":false}}
[09-21 17:53:14] [info] config at /Users/mark/Documents/FE_DEV_Fall_2022 {"remotePath":"/pages/mark-m","uploadOnSave":true,
"useTempFile":false,"openSsh":false,"downloadOnOpen":false,"ignore":[],"concurrency":4,"protocol":"ftp","connectTimeout":10000,
"interactiveAuth":false,"secure":true,"remoteTimeOffsetInHours":0,"name":"somewhatchicken.com","host":"somewhatchicken.com",
"port":21,"username":"*****","password":"*****","secureOptions":{"rejectUnauthorized":false}}
[09-21 17:53:29] [info] folder transferred.
[09-21 17:54:04] [info] [file-save] /Users/mark/Documents/FE_DEV_Fall_2022/index.html
[09-21 17:54:06] [info] [file-save] /Users/mark/Documents/FE_DEV_Fall_2022/blackjack.html
[09-21 17:54:07] [info] local -> remote /Users/mark/Documents/FE_DEV_Fall_2022/index.html
[09-21 17:54:07] [info] local -> remote /Users/mark/Documents/FE_DEV_Fall_2022/blackjack.html
```

The status bar at the bottom shows 'SFTP' mode, 'Ln 1, Col 1', 'Spaces: 4', 'UTF-8', 'LF', 'HTML', and a notification bell icon.

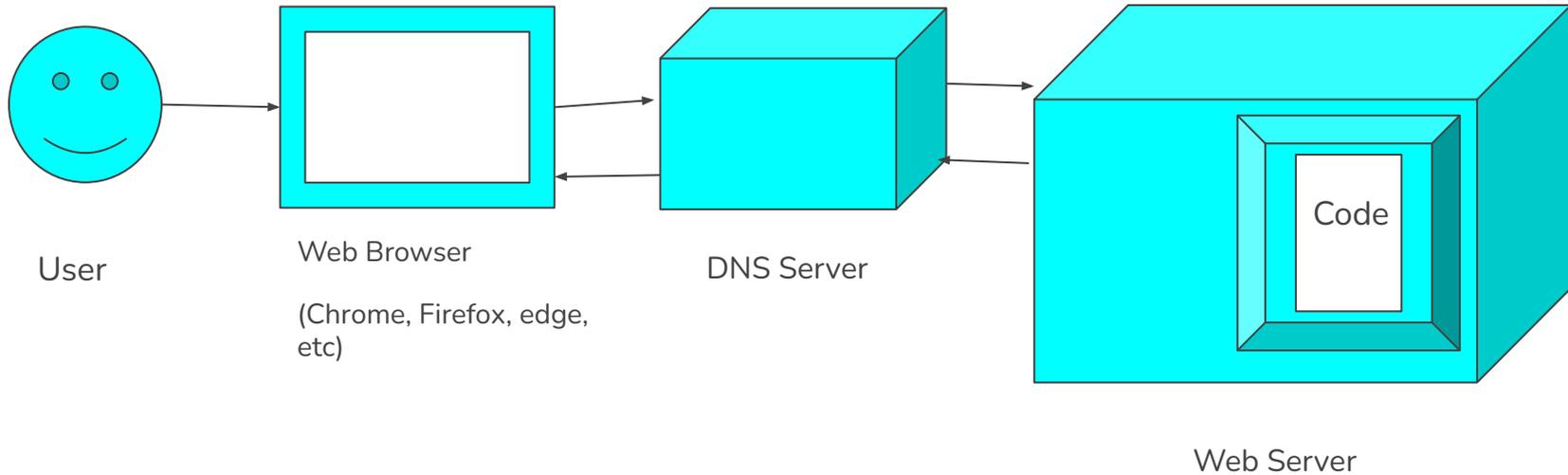
Validate at <https://winter2024.uoadev.com/YOURNAME/>

What did we just do?





How does a website work?



Role of Browser

NCSA X Mosaic 2.7b6 [Hypertext and WWW information]

File Options Navigate Annotate News Help

URL: <http://webOffice-01d.web.cern.ch/WebOffice-01d/www0/We1come.htm>

Hypertext and WWW information

Sorry, the hypertext and WWW information is not available. The physical machine is not connected.

You are now looking at: We still have information for other information systems.

About the World Wide Web

The Web originated with the development of the [INRIA](#) in Europe, and the [Web Consortium](#).

Web Conferences

The International WWW Conferences

R. Cailliau, Web Office.

File Edit View Go Bookmarks Options Dictionary Help

Location: <http://www.wikipedia.org/>

What's New What's Cool Upgrades Net Search Net Directory Newsgroups Handbook

Special pages Go

Printable version
Other languages: [German](#) | [Español](#) | [Spanish](#) | [French](#) | [Dutch](#) | [Polish](#) | [Português](#)

Main Page

From Wikipedia, the free encyclopedia.

Welcome to Wikipedia, a collaborative project to produce a complete [encyclopedia](#) from scratch. We started in [January 2001](#) and already have [44027 articles](#). We want to make over 100,000 complete articles, so let's get to work! Anyone, including you, can edit any article right now, without even having to log in. You can copyedit, expand an article, write a little or write a lot. See the [Wikipedia FAQ](#) for more background information about the project, and the [help page](#) for information on how to use and contribute to Wikipedia.

The content of Wikipedia is covered by the [GFDL Free Documentation License](#), which means that it

MSN.com

File Edit View Favorites Help

Address: <http://www.msn.com/>

Welcome to msn.com

MSN Search

Select a Category:

- Web
- News
- Images
- Desktop
- Encarta
- LocalNews

Search the Web:

Start MSN.com

Main Page - Wikipedia, the free encyclopedia - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

Location: http://en.wikipedia.org/wiki/Main_Page

Getting Started Latest Headlines

article discussion view source history

Main Page

From Wikipedia, the free encyclopedia.

Welcome to Wikipedia, a free-content encyclopedia in many languages that anyone can edit. In this English edition, started in January 2001, we are working on [409921 articles](#). Visit our [Community Portal](#) to find out how you can edit an article, or experiment in the [sandbox](#).

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[Browse Wikipedia](#) - [Article overviews](#) - [Alphabetical index](#) - [Other category schemes](#)

Today's featured article

 **The Mercedes-Benz 450SEL 6.9** was a high-performance version of the S-Class luxury sedan. Built on its own assembly line by Daimler-Benz AG (now DaimlerChrysler) in [Stuttgart](#) and based on the long-wheelbase version of the "W116" chassis introduced in [1973](#), the 6.9, as it was generally

In the news

- The [International Committee of the Red Cross](#) criticises the [United States'](#) treatment of prisoners at [Guantánamo](#)



navigation

- Main Page
- Community portal
- Current events
- Recent changes
- Random page
- Help
- Donations

search

Go Search

toolbox

- What links here
- Related changes

Done



File structure of a website

Every site **MUST** have an `index.html`

When someone navigates to your web page it will direct to `index.html`

Other web pages are created by making `.html` files

Documents can either be in the root directory or in folders

Let's create a few sub pages!



What is `<!DOCTYPE>`?

`<!DOCTYPE>` tells the browser the document type, and helps to properly display the web page

`<!DOCTYPE>` can only be at the top of the page and must only appear once

Unlike other elements it does not need a closing tag

`<!DOCTYPE>` is not case sensitive



HTML Basic Structure

```
<!DOCTYPE html>  
  
<html>  
  
  <body>  
  
    <p>This will appear on the page</p>  
  
  </body>  
  
</html>
```



HTML Elements

An HTML element is all the content that is contained between the start tag to the end tag:

`<tagID>Content goes here...</tagID>`

Example: `<p>This is a paragraph</p>`



Body

The body of a webpage is the main content of the webpage

The body's content is typically unique to a single webpage

Questions?

