TECHNISCHE UNIVERSITÄT DARMSTADT

Informatik

HCI Lab

# IVAR: Lab 1

## **setup your website** (hugo) & **unity setup**

17.10.2023

# About me

| | supervisors |
|---|---|
| 2023-2025, PhD student at TU Darmstadt, Germany | Jan Gugenheimer<br>Samuel Huron<br>Eric Lecolinet |
| 2020-2023, PhD student at Telecom Paris, France | |
| 2017-2019, MS in CS at NCTU, Taiwan | Liwei Chan |
| 2011-2015, BS in Psychology at NCKU, Taiwan | |

I. setup your website (hugo)

II. unity setup **(2022.3.10f1)**

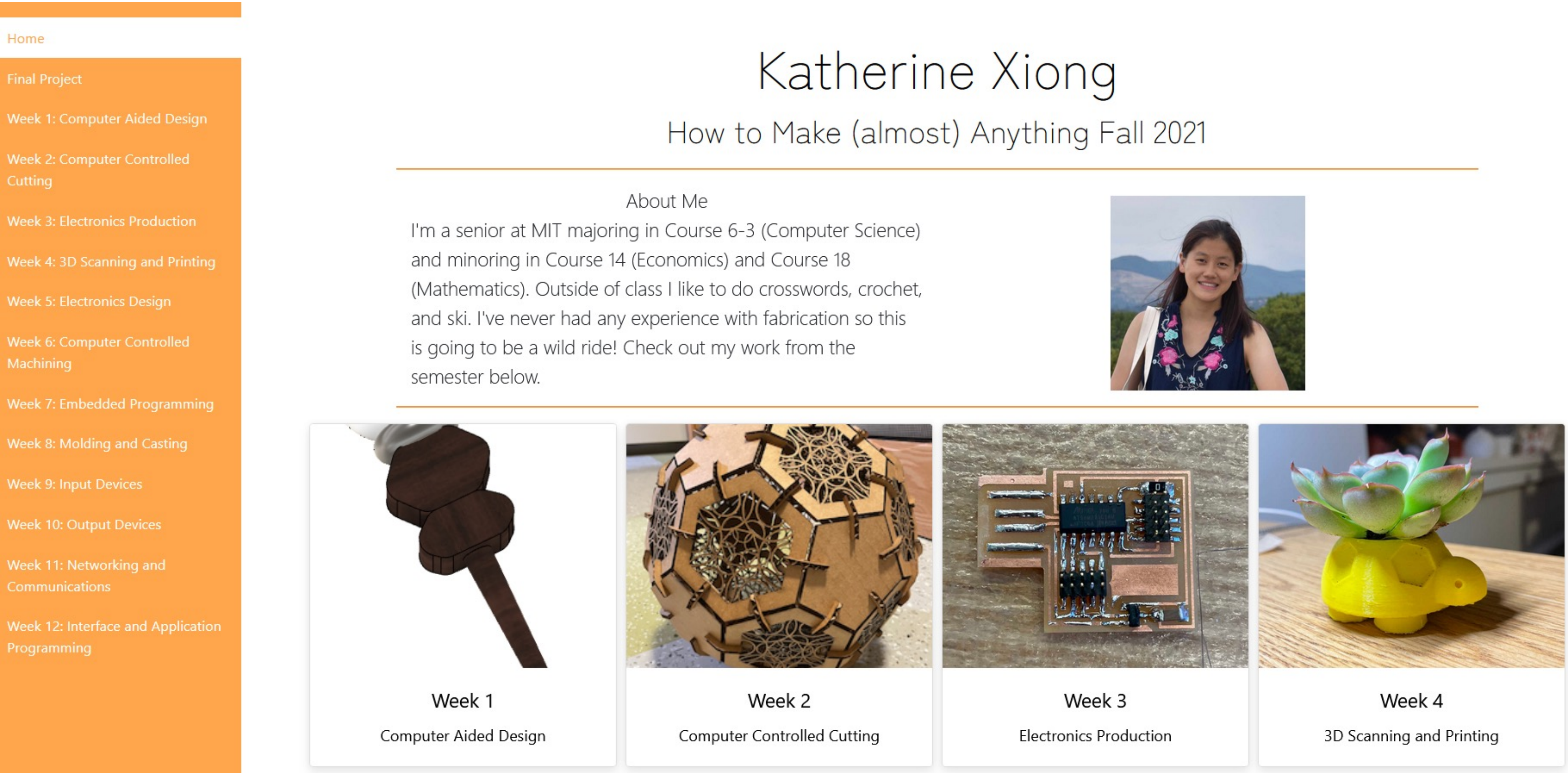
I. setup your website (hugo)

II. unity setup (2022.3.10f1)

Inspired by “*how to make (almost) anything*”

http://fab.cba.mit.edu/classes/863.23/people.html

http://fab.cba.mit.edu/classes/863.22/people.html


Home
Final Project
Week 1: Computer Aided Design
Week 2: Computer Controlled Cutting
Week 3: Electronics Production
Week 4: 3D Scanning and Printing
Week 5: Electronics Design
Week 6: Computer Controlled Machining
Week 7: Embedded Programming
Week 8: Molding and Casting
Week 9: Input Devices
Week 10: Output Devices
Week 11: Networking and Communications
Week 12: Interface and Application Programming

# Katherine Xiong

## How to Make (almost) Anything Fall 2021

### About Me

I'm a senior at MIT majoring in Course 6-3 (Computer Science) and minoring in Course 14 (Economics) and Course 18 (Mathematics). Outside of class I like to do crosswords, crochet, and ski. I've never had any experience with fabrication so this is going to be a wild ride! Check out my work from the semester below.

Week 1

Computer Aided Design

Week 2

Computer Controlled Cutting

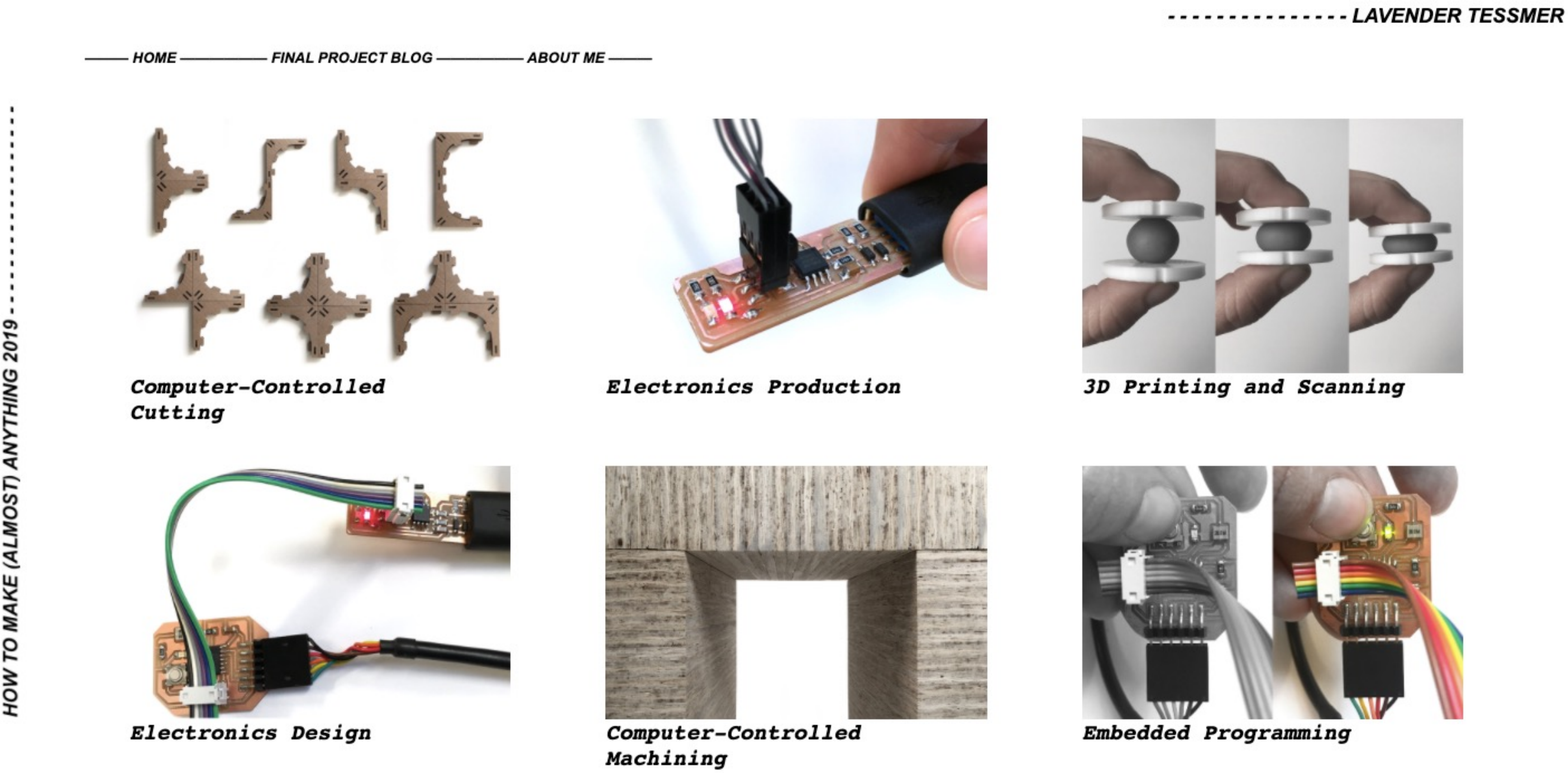
Week 3

Electronics Production

Week 4

3D Scanning and Printing

http://fab.cba.mit.edu/classes/863.21/EECS/people/katherine/index.html



LAVENDER TESSMER

HOME — FINAL PROJECT BLOG — ABOUT ME

HOW TO MAKE (ALMOST) ANYTHING 2019

Computer-Controlled Cutting

Electronics Production

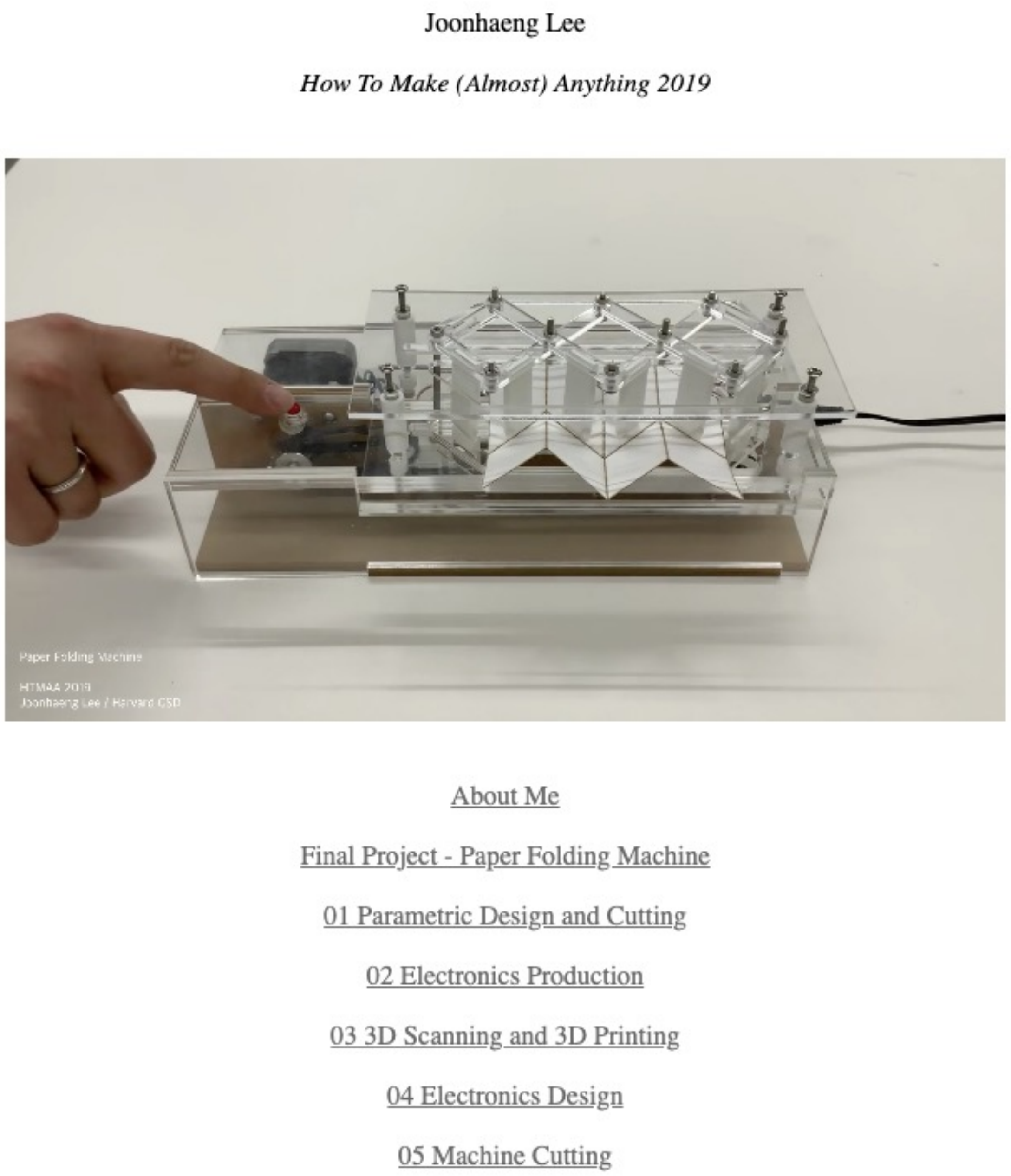
3D Printing and Scanning

Electronics Design

Computer-Controlled Machining

Embedded Programming

http://fab.cba.mit.edu/classes/863.19/Architecture/people/Lavender/index.html



Joonhaeng Lee

*How To Make (Almost) Anything 2019*

About Me

Final Project - Paper Folding Machine

01 Parametric Design and Cutting

02 Electronics Production

03 3D Scanning and 3D Printing

04 Electronics Design

05 Machine Cutting

http://fab.cba.mit.edu/classes/863.19/Harvard/people/joonhaenglee/index.html

# Benefits

- You can use different materials to present your work (e.g., text, code, image, and video).
- Comparing to a final report in pdf, it’s way easier to introduce your work to other people.
- By documenting your classes/projects, you will have a nice portfolio at the end of your study.

# But for this class …

- We don’t have to follow the style in *how to make* class, which has lots of hardware implementation and visual.
- We mainly focus on how you illustrate your progress of each task in the class and your final project.
- Note: we will evaluate your final score based on your website.

# Examples from our students

- https://theskynet1337.github.io/HugoBlog/posts/
- https://nilspur.github.io/VR-Parkour-Blog/
- https://somedudeonthispage.github.io/TUDA-InteractionVR-Blog/post/07-interaction-rotation/
- https://nendia.github.io/ARVR/

# How to produce contents

- Lots of figures!
  - Take **photos** and **videos** of every step, sort out later

# How to produce *good* contents

- Sometimes lots of text to describe things in detail
    - Take notes of **what you do**
    - Take notes of **what works and what does not**
    - Take notes **what you use** and **how you progress**
    - Choose important **code snippets** and **screenshots**

# How to get from content to a website quickly?

- Get a blog or public documentation online
- As fast/easy as possible

# Content Management Systems

- Large choices and ecosystems
- Dynamic content and server-side code
- Visual interface for novice users
- Databases as source

But:

- Security issues
- Configuration effort

# Static Page Generators

- Large variety of options: https://www.staticgen.com/
- Fast to render, no server-side code
- Content is versioned (git)
- Often more secure

But:

- No dynamic content, often no database
- No real admin UI

There are plenty of generators available. In this class, we do not want to force you to use specific tools. We choose **hugo** as a quick example but you can always go for the one suits you the best.

# install hugo

# Example setup for Hugo

- https://gohugo.io/getting-started/installing/
- Linux / MacOS / Windows

# Prerequisites

- git
  - Register at https://github.com/
- A console environment (e.g., Homebrew for MacOS)
- A text editor of your choosing (vim, nano, VS code, etc.)

## Linux

- via snap
- via apt-get
- via pacman
- build it yourself

## MacOS

- via Homebrew
- from Tarball

## Windows

- from .zip release
- via Chocolatey

## Linux

- via snap
- via apt-get
- via pacman
- build it yourself

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- via Homebrew
- from Tarball

## Windows

- from .zip release
- via Chocolatey

## Linux

- via apt-get

## MacOS

- via Homebrew

## Windows

- from .zip release

## Linux

- via apt-get

1. `sudo apt-get install hugo`

## MacOS

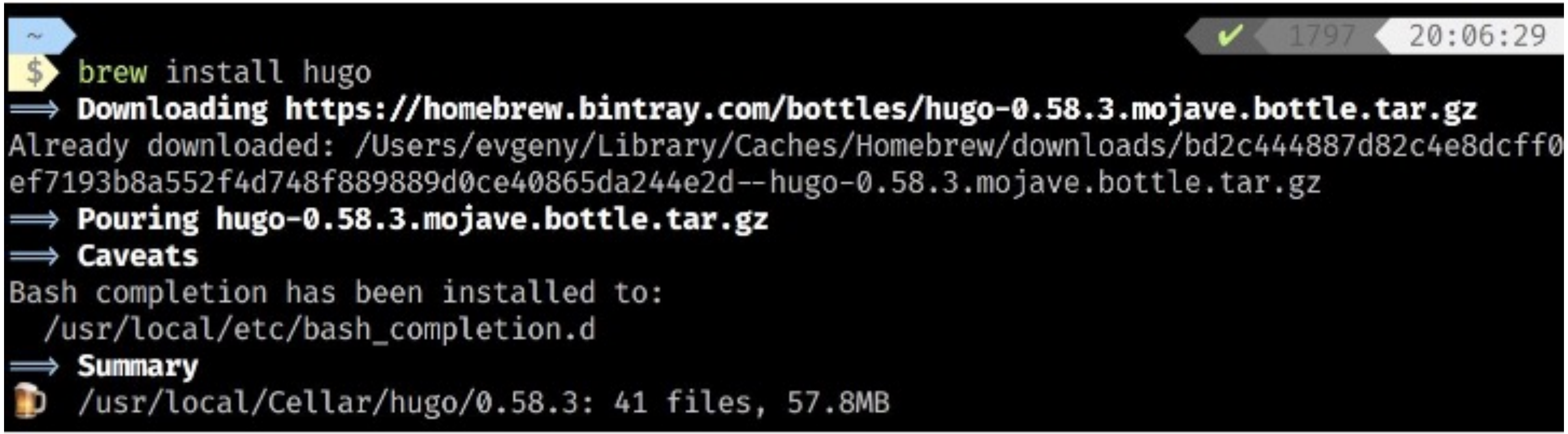
- via Homebrew

1. install brew
2. `brew install hugo`

## Windows

- from .zip release

1. download release
2. unzip to c:\Hugo\bin
3. add hugo.exe to PATH



```
~                                                          ✔  1797  20:06:29
$ brew install hugo
==> Downloading https://homebrew.bintray.com/bottles/hugo-0.58.3.mojave.bottle.tar.gz
Already downloaded: /Users/evgeny/Library/Caches/Homebrew/downloads/bd2c444887d82c4e8dcff0
ef7193b8a552f4d748f889889d0ce40865da244e2d--hugo-0.58.3.mojave.bottle.tar.gz
==> Pouring hugo-0.58.3.mojave.bottle.tar.gz
==> Caveats
Bash completion has been installed to:
  /usr/local/etc/bash_completion.d
==> Summary
🍺  /usr/local/Cellar/hugo/0.58.3: 41 files, 57.8MB
```

## Linux

- via apt-get

1. `sudo apt-get install hugo`

3. `which hugo`
4. `hugo version`

## MacOS

- via Homebrew

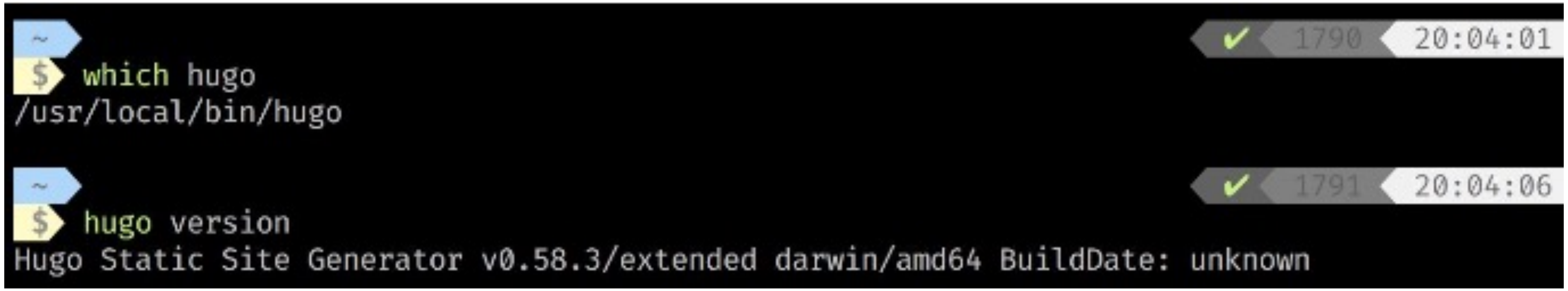
1. install brew
2. `brew install hugo`
3. `which hugo`
4. `hugo version`

## Windows

- from .zip release

1. download release
2. unzip to c:\Hugo\bin
3. add hugo.exe to PATH

4. `hugo version`

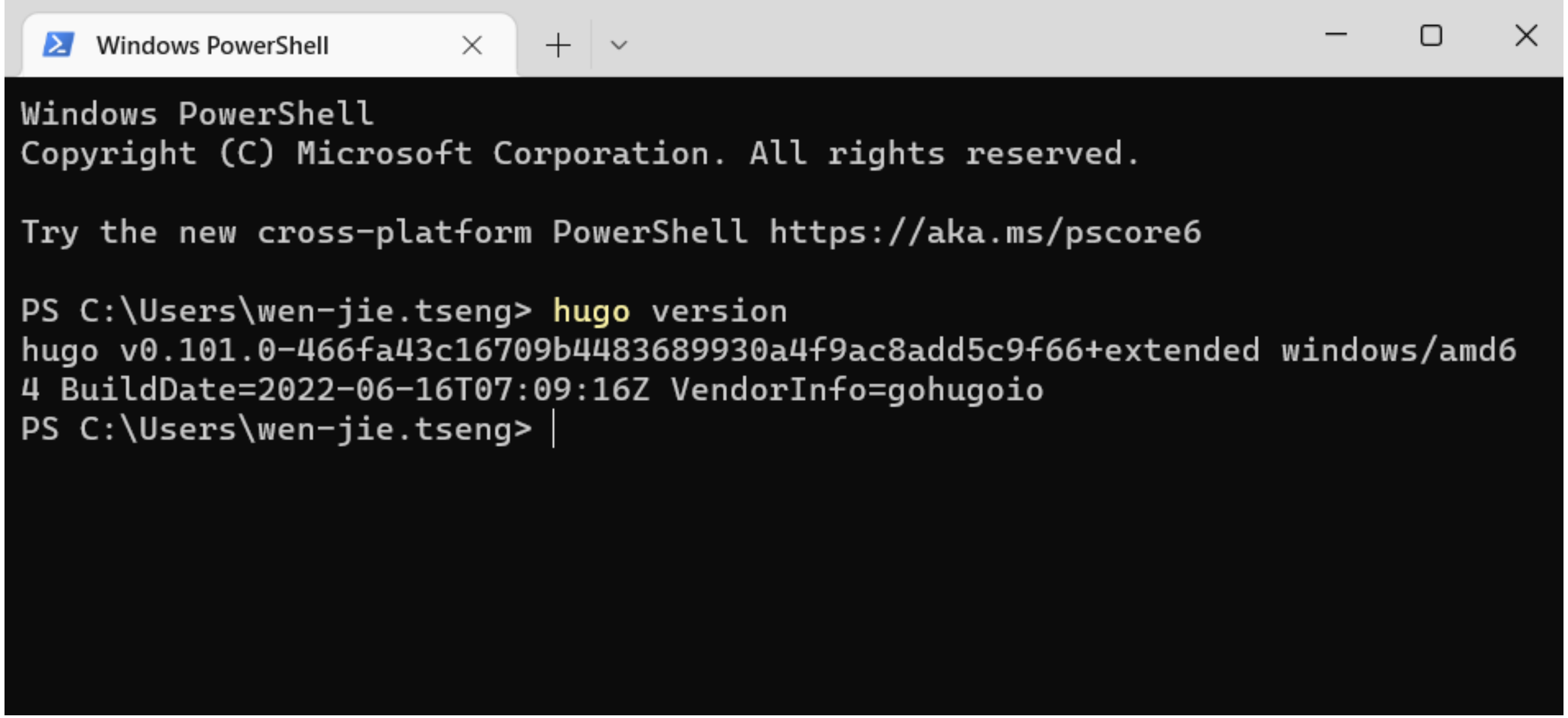


```
~                                                        ✔  1790  20:04:01
$ which hugo
/usr/local/bin/hugo

~                                                        ✔  1791  20:04:06
$ hugo version
Hugo Static Site Generator v0.58.3/extended darwin/amd64 BuildDate: unknown
```

# Windows

- from .zip release

1. download release
2. unzip to c:\Hugo\bin
3. add hugo.exe to PATH



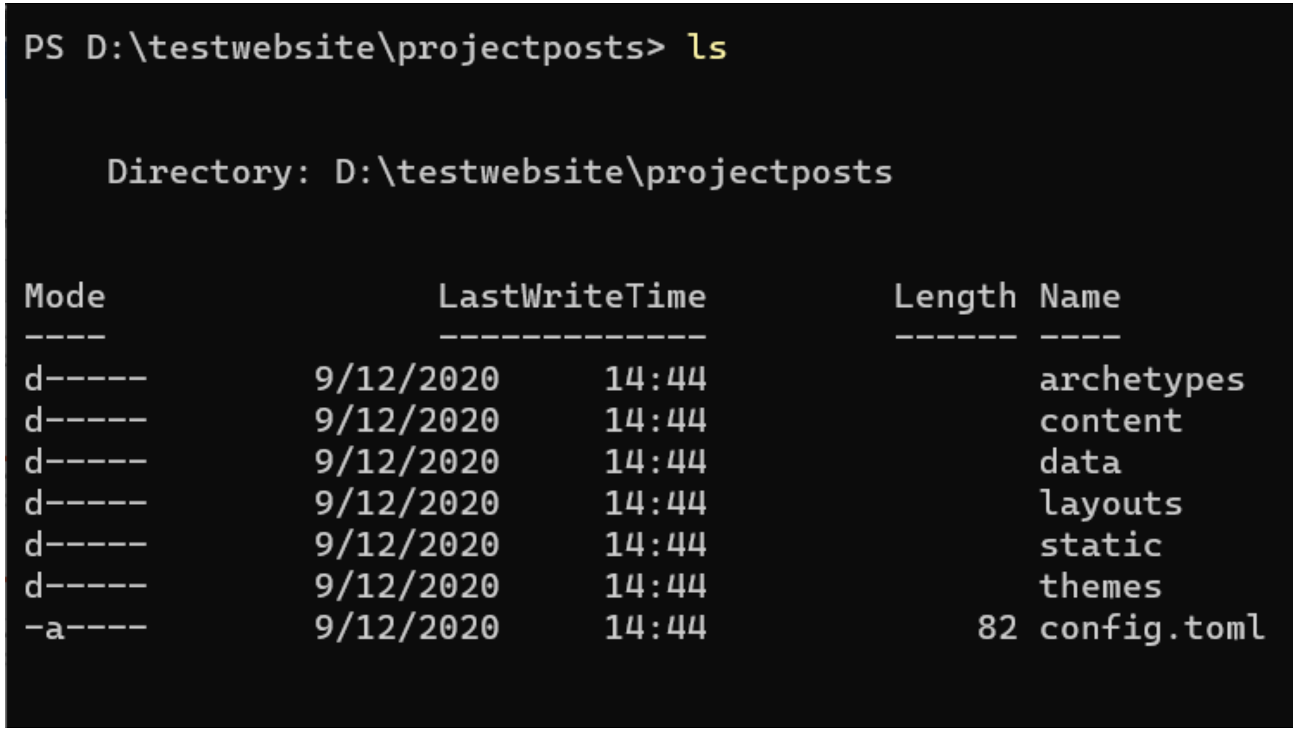
```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\wen-jie.tseng> hugo version
hugo v0.101.0-466fa43c16709b4483689930a4f9ac8add5c9f66+extended windows/amd6
4 BuildDate=2022-06-16T07:09:16Z VendorInfo=gohugoio
PS C:\Users\wen-jie.tseng>
```

4. `hugo version`

# creating a website

# Create

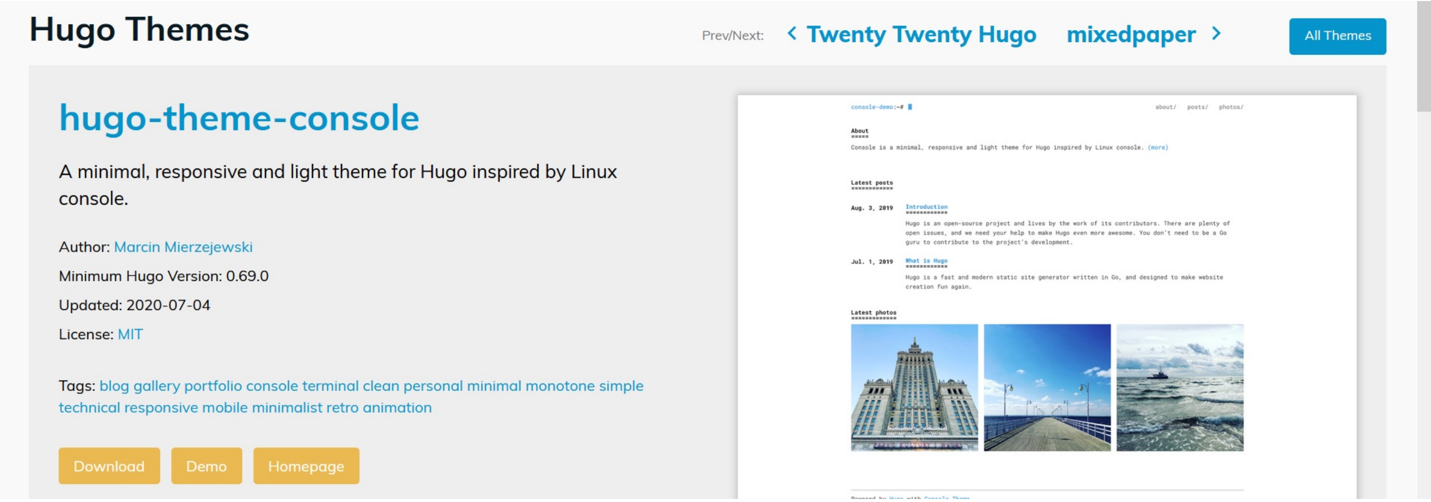
- `hugo new site sitename`
- `cd sitename`



```
PS D:\testwebsite\projectposts> ls


    Directory: D:\testwebsite\projectposts


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
d-----         9/12/2020     14:44                archetypes
d-----         9/12/2020     14:44                content
d-----         9/12/2020     14:44                data
d-----         9/12/2020     14:44                layouts
d-----         9/12/2020     14:44                static
d-----         9/12/2020     14:44                themes
-a----         9/12/2020     14:44             82 config.toml
```

# Select a theme

- Choose a theme at https://themes.gohugo.io/
- Themes are organized in git repositories



## hugo-theme-console

A minimal, responsive and light theme for Hugo inspired by Linux console.

Author: Marcin Mierzejewski

Minimum Hugo Version: 0.69.0

Updated: 2020-07-04

License: MIT

Tags: blog gallery portfolio console terminal clean personal minimal monotone simple technical responsive mobile minimalist retro animation

About

Console is a minimal, responsive and light theme for Hugo inspired by Linux console. (more)

Latest posts

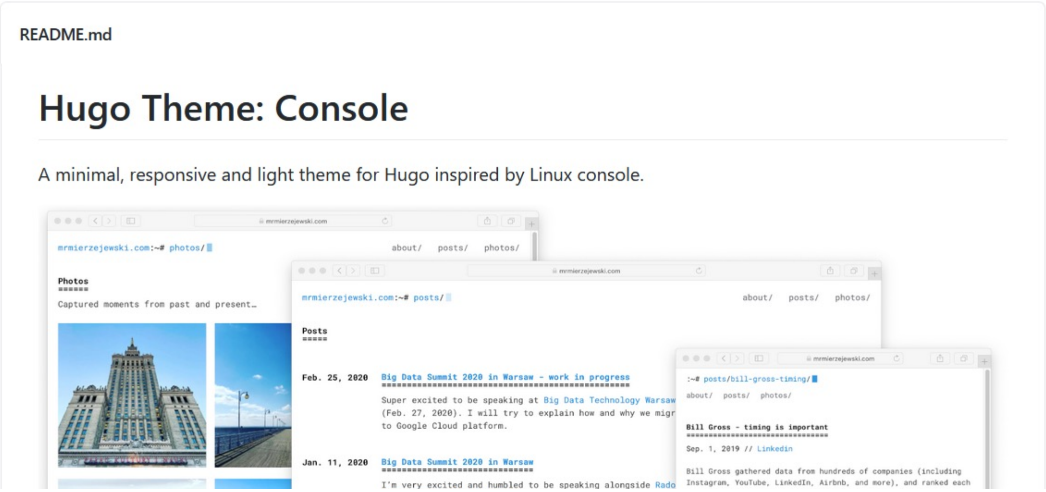
Aug. 3, 2019 Introduction

Hugo is an open-source project and lives by the work of its contributors. There are plenty of open issues, and we need your help to make Hugo even more awesome. You don't need to be a Go guru to contribute to the project's development.

Jul. 1, 2019 What is Hugo

Hugo is a fast and modern static site generator written in Go, and designed to make website creation fun again.

Latest photos


README.md
mrmierzejewski.com
mrmierzejewski.com:~# photos/
about/
posts/
photos/
mrmierzejewski.com:~# posts/
:~# posts/bill-gross-timing/

## Hugo Theme: Console

A minimal, responsive and light theme for Hugo inspired by Linux console.

Photos

Captured moments from past and present…

Posts

Feb. 25, 2020 Big Data Summit 2020 in Warsaw - work in progress

Super excited to be speaking at Big Data Technology Warsaw (Feb. 27, 2020). I will try to explain how and why we migr to Google Cloud platform.

Jan. 11, 2020 Big Data Summit 2020 in Warsaw

I'm very excited and humbled to be speaking alongside Rado

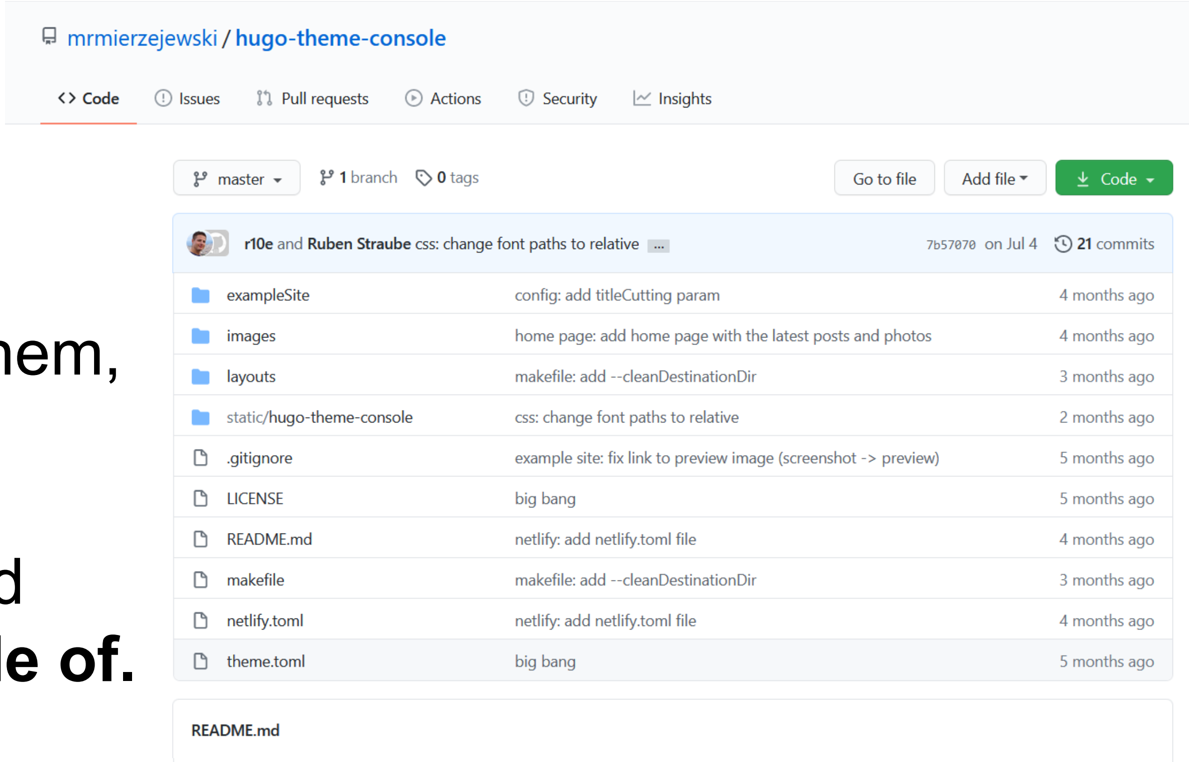
Bill Gross - timing is important

Sep. 1, 2019 // Linkedin

Bill Gross gathered data from hundreds of companies (including Instagram, YouTube, LinkedIn, Airbnb, and more), and ranked each

# Select a theme

- Choose a theme at [https://themes.gohugo.io/](https://themes.gohugo.io/)
- Take a look at the GitHub repo of the them, especially the **`README.md`**
- Themes use different content types and definitions - **check what they are made of.**
- Also take a look at the **`exampleSite`** in the repository, to see the structure of a page with this theme and an example **`config.toml`** file.



r10e and Ruben Straube css: change font paths to relative … 7b57070 on Jul 4 21 commits

| | | |
|---|---|---|
| exampleSite | config: add titleCutting param | 4 months ago |
| images | home page: add home page with the latest posts and photos | 4 months ago |
| layouts | makefile: add --cleanDestinationDir | 3 months ago |
| static/hugo-theme-console | css: change font paths to relative | 2 months ago |
| .gitignore | example site: fix link to preview image (screenshot -> preview) | 5 months ago |
| LICENSE | big bang | 5 months ago |
| README.md | netlify: add netlify.toml file | 4 months ago |
| makefile | makefile: add --cleanDestinationDir | 3 months ago |
| netlify.toml | netlify: add netlify.toml file | 4 months ago |
| theme.toml | big bang | 5 months ago |

README.md

# Select a theme

- initialize a git repository: **`git init`**
- If you use a theme, add it as a submodule.
  - **`git submodule add https://github.com/budparr/gohugo-theme-ananke.git themes/ananke`**

# Select a theme

- **`config.toml`** is the main configuration file
  - URL
  - Language
  - Title
  - Theme
  - ...
- We want the site to use the theme we just downloaded
  - **`echo 'theme = "ananke"' >> config.toml`**

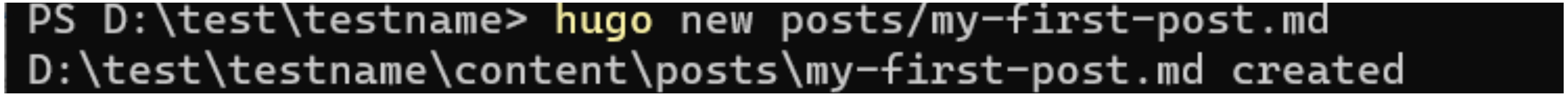
    **OR**
  - Open **`config.toml`** in a text editor and add **`theme = "ananke"`**

# Local testing

- The site can be tested locally on your device
- **`hugo server -D`**
- **`-D`** includes drafts in the visible pages (more on that later)
- The server is available at **`http://localhost:1313/`**
- **Each time the config or the content changes, the site reloads**

# Creating a page

- In your console, execute:
  **hugo new posts/my-first-post.md**



```
PS D:\test\testname> hugo new posts/my-first-post.md
D:\test\testname\content\posts\my-first-post.md created
```

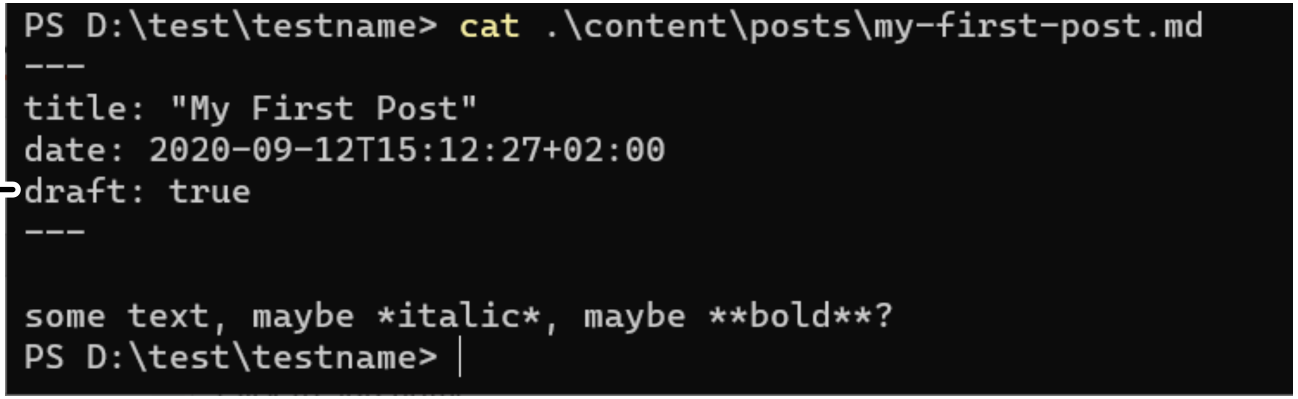
- This creates an empty entry with the default header:

```
---
title: "My First Post"
date: 2019-03-26T08:47:11+01:00
draft: true
---
```

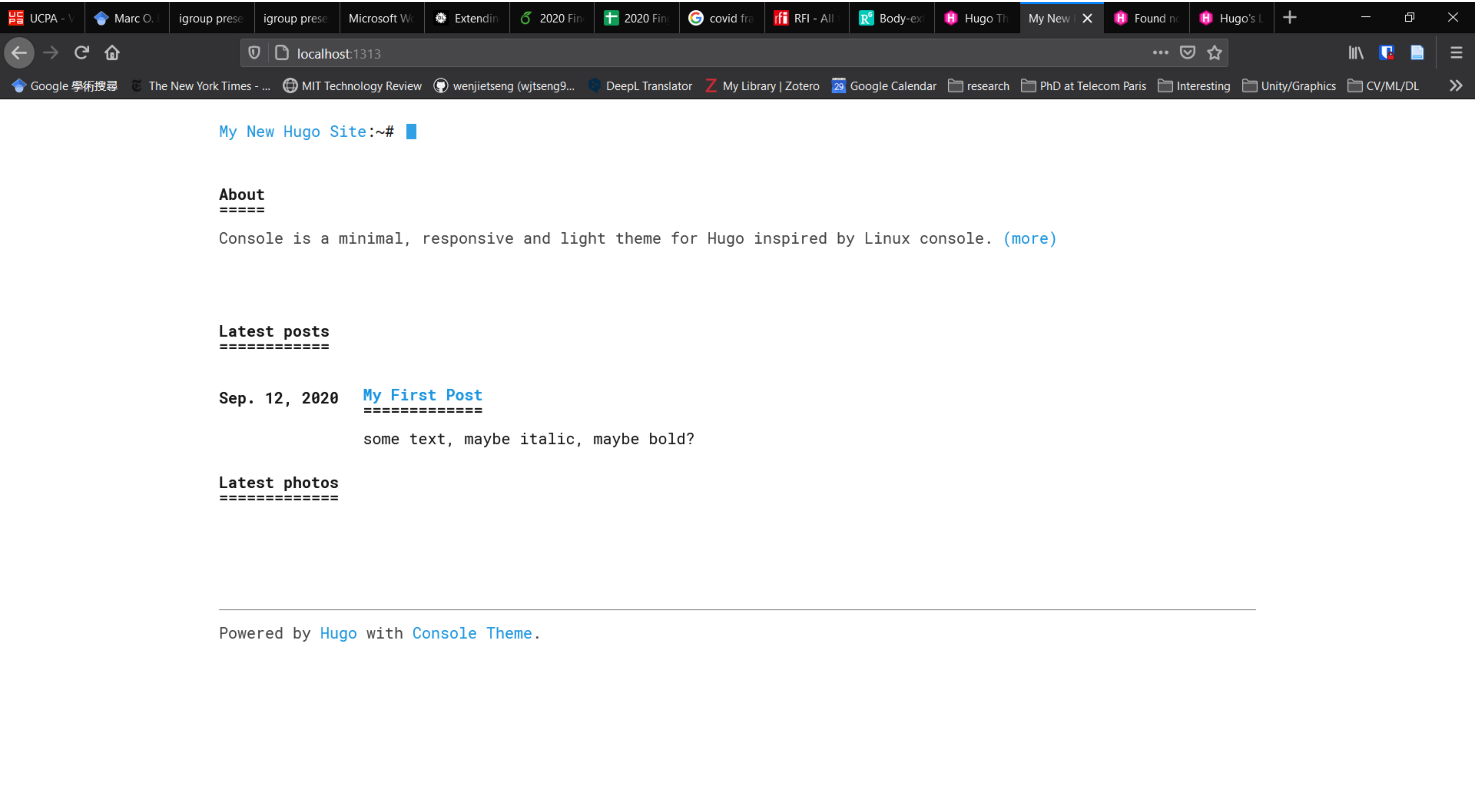
# Creating a page

- You can now start to fill it with text:
  **`some text, maybe *italic*, maybe **bold**?`**

**“draft:  true”** is the default setting and will not be publish on your website
→ change to **false** if you are ready for publishing it



```
PS D:\test\testname> cat .\content\posts\my-first-post.md
---
title: "My First Post"
date: 2020-09-12T15:12:27+02:00
draft: true
---

some text, maybe *italic*, maybe **bold**?
PS D:\test\testname>
```



My New Hugo Site:~#

## About

Console is a minimal, responsive and light theme for Hugo inspired by Linux console. (more)

## Latest posts

Sep. 12, 2020 **My First Post**

some text, maybe italic, maybe bold?

## Latest photos

Powered by Hugo with Console Theme.

# deploy (GitHub)

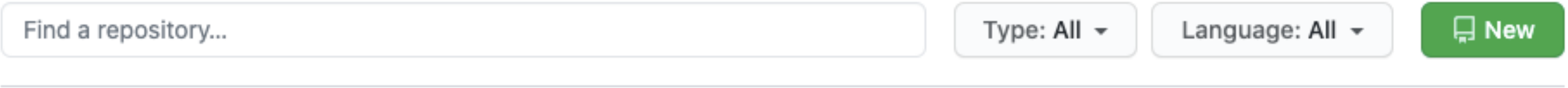
# Deployment

- There are multiple ways to get the page online
  - via GitHub
    https://gohugo.io/hosting-and-deployment/hosting-on-github/
  - via GitLab

- What you write is **public** (content, commit messages…)
  - Be aware of content and licenses
  - Especially images

# GitHub

- https://gohugo.io/hosting-and-deployment/hosting-on-github/
- We use **Project Pages**, not User Pages.
  - A project page is specific to a repository
- Create a repository on GitHub



# GitHub

- https://gohugo.io/hosting-and-deployment/hosting-on-github/
- Configure the GitHub repository as remote
- Configure either SHH or HTTPS access

# Setup ssh

- https://docs.gitlab.com/ee/ssh/
- Setup an SSH key on you local machine
- Configure it to be used with git (locally)
- Set it in the GitHub/GitLab settings as a valid key

# `publishDir`

- https://gohugo.io/hosting-and-deployment/hosting-on-github/
- We want to use a single directory for the page, the rest may be used as a normal repository (docs)
- add **`publishDir = "docs"`** to the **`config.toml`**

# `baseURL`

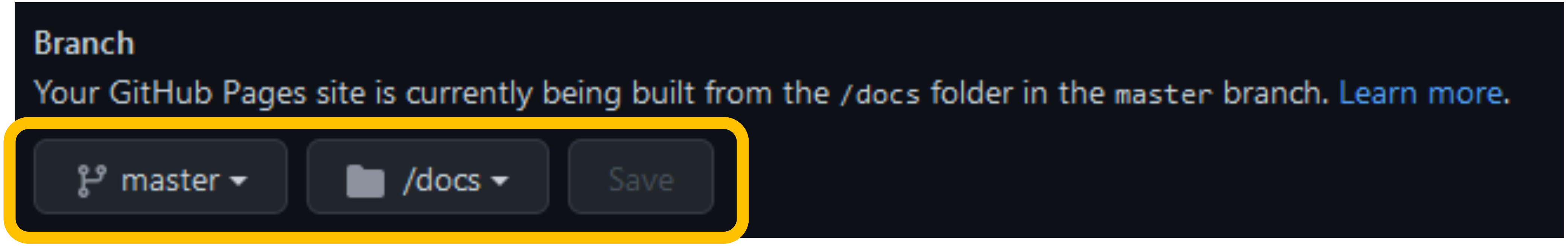
- https://gohugo.io/hosting-and-deployment/hosting-on-github/
- set **`baseURL = "https://<username>.github.io/<reponame>"`** in the **`config.toml`**

# Deployment

- excecute **hugo** to build the site
- push the results to your GitHub repo
- The result is then found in the **`docs/`** folder (as .html)
- **Posts that are marked as draft are not included!**

# GitHub Repo > Settings > Pages > Branch

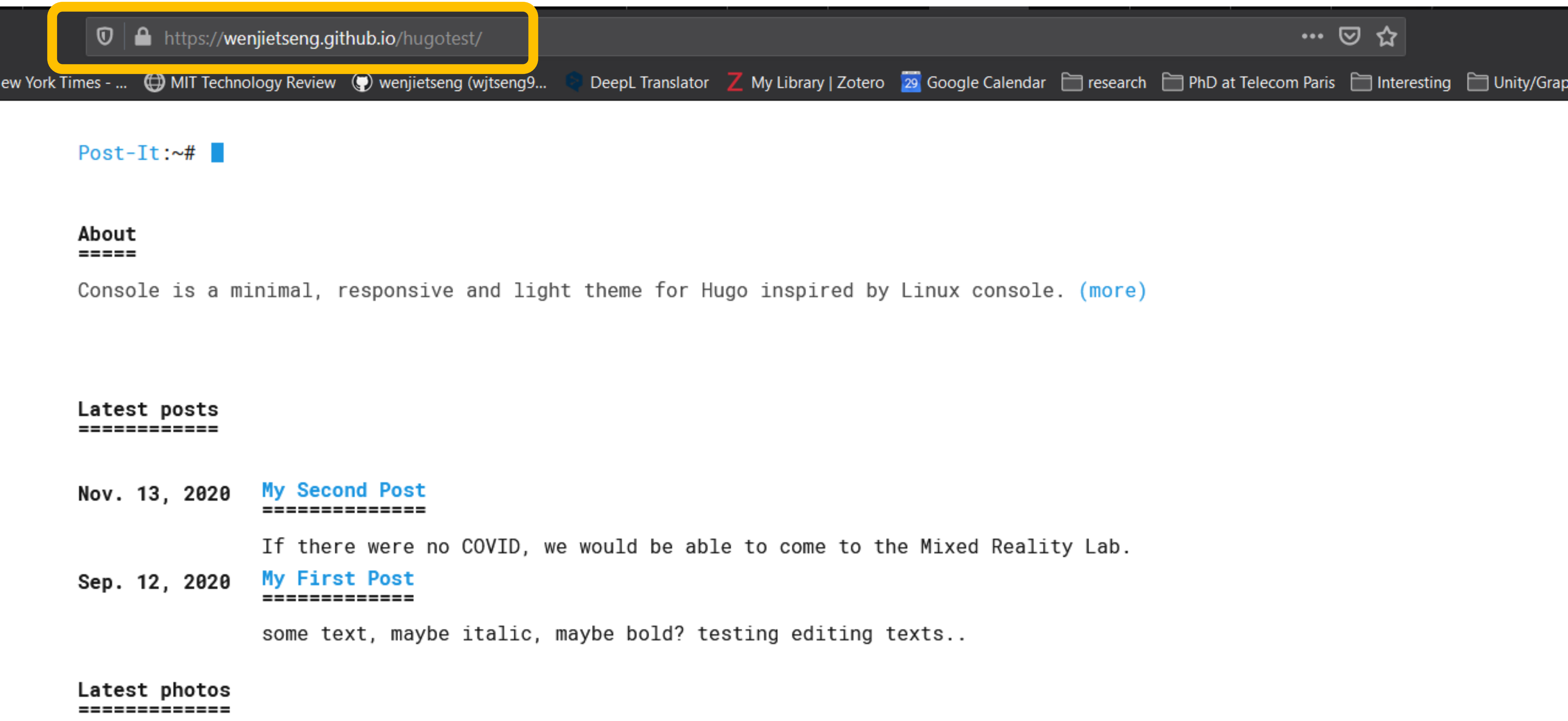
- If you were successful, the repository on GitHub now contains a docs folder with compiled .html pages
- Enable GitHub pages to use the docs folder, and save



Branch

Your GitHub Pages site is currently being built from the /docs folder in the master branch. Learn more.

- Navigate to **`https://<username>.github.io/<reponame>`**



Post-It:~#

About
=====

Console is a minimal, responsive and light theme for Hugo inspired by Linux console. (more)

Latest posts
============

Nov. 13, 2020 My Second Post
==============

If there were no COVID, we would be able to come to the Mixed Reality Lab.

Sep. 12, 2020 My First Post
=============

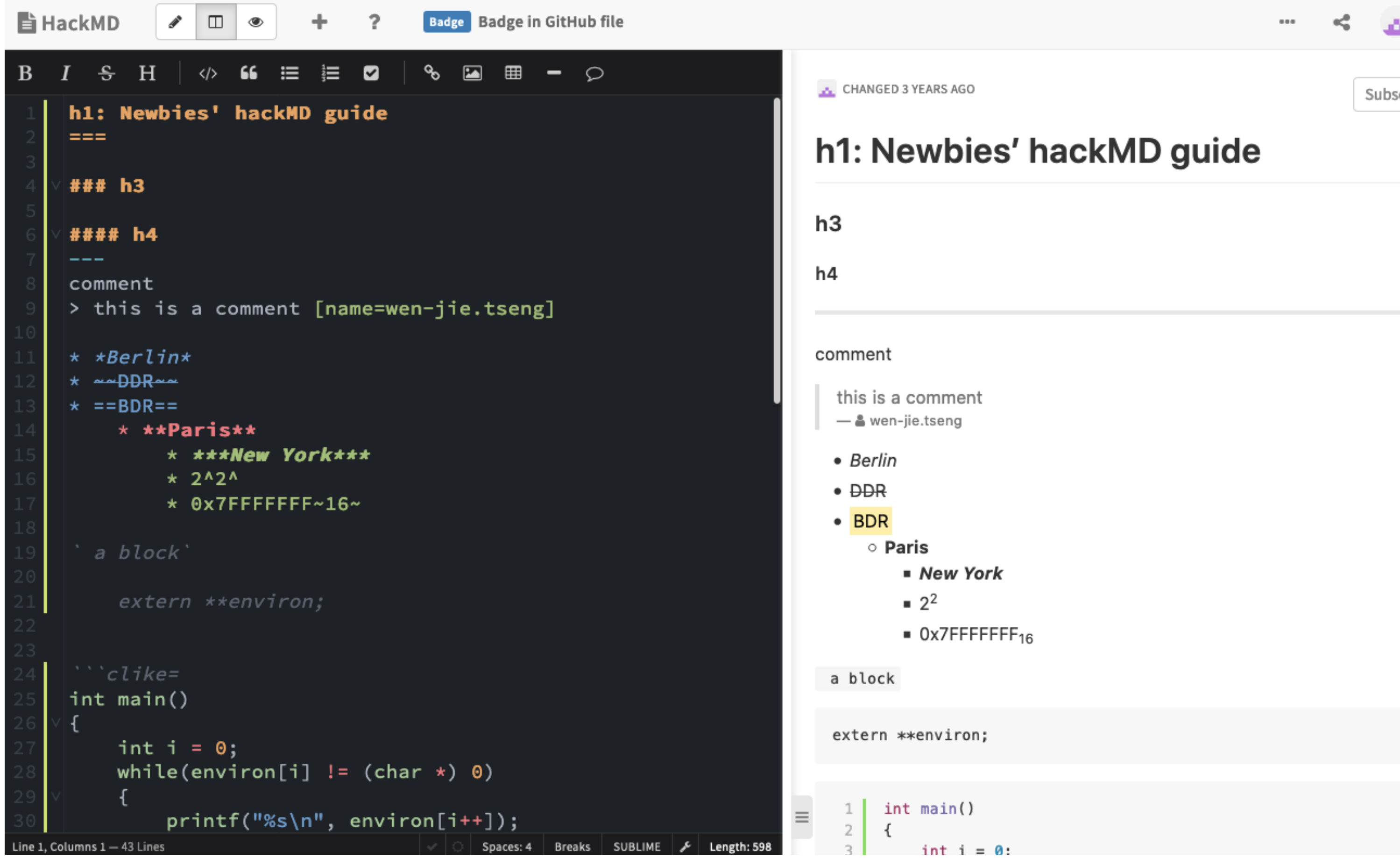
some text, maybe italic, maybe bold? testing editing texts..

Latest photos
=============

# markdown syntax

# Markdown

- Simple markup language
- Only text editor
- Tooling to convert to .doc, .tex, .txt (e.g., Pandoc) or an entire website



~~~
h1: Newbies' hackMD guide
===

### h3

#### h4
---
comment
> this is a comment [name=wen-jie.tseng]

* *Berlin*
* ~~DDR~~
* ==BDR==
    * **Paris**
        * ***New York***
        * 2^2^
        * 0x7FFFFFFF~16~

` a block`

    extern **environ;


```clike=
int main()
{
    int i = 0;
    while(environ[i] != (char *) 0)
    {
        printf("%s\n", environ[i++]);
~~~

Line 1, Columns 1 — 43 Lines    Spaces: 4    Breaks    SUBLIME    Length: 598

CHANGED 3 YEARS AGO

h1: Newbies' hackMD guide

h3

h4

comment

> this is a comment
> — wen-jie.tseng

- *Berlin*
- ~~DDR~~
- BDR
    - **Paris**
        - ***New York***
        - $2^2$
        - $0x7FFFFFFF_{16}$

`a block`

```
extern **environ;
```

```
int main()
{
    int i = 0;
```

# layout

- https://github.com/adam-p/markdown-here/wiki/Markdown-Cheatsheet

# H1

## H2

### H3

#### H4

…

# formatting

- https://github.com/adam-p/markdown-here/wiki/Markdown-Cheatsheet

*emph* or _emph_

**bold** or __bold__

~~crossout~~

# links

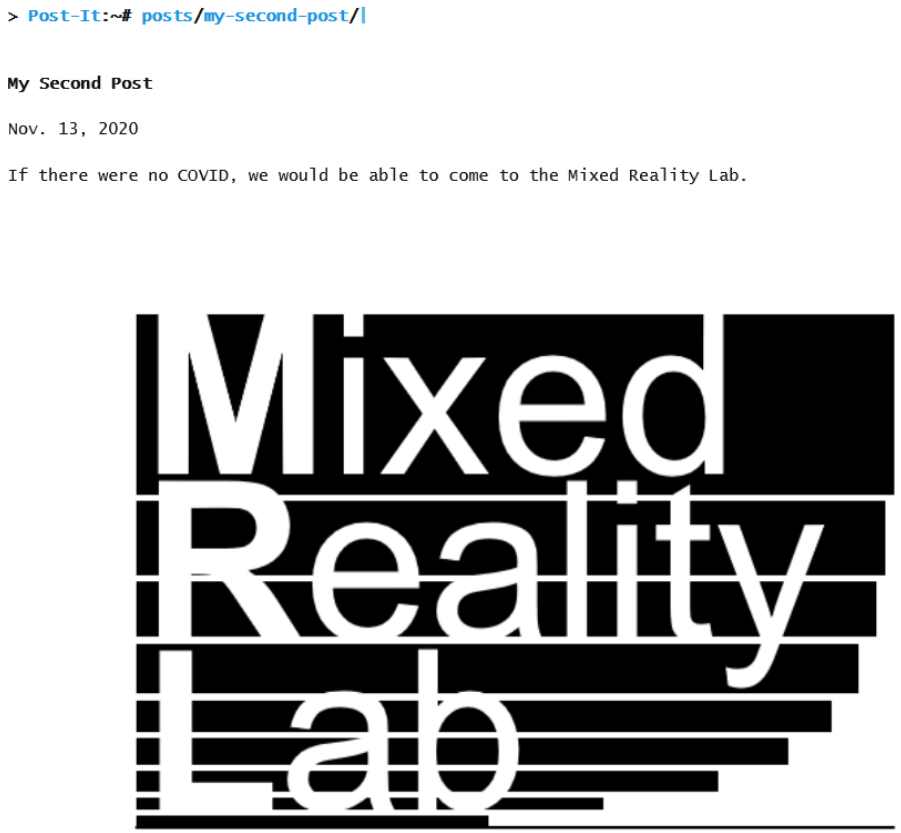
- https://github.com/adam-p/markdown-here/wiki/Markdown-Cheatsheet

```
[inline-style link](https://www.google.com)

[inline link with title](https://www.google.com "Google's Homepage")
```

# images

- https://github.com/adam-p/markdown-here/wiki/Markdown-Cheatsheet

```
![alt text](https://site.url/static/img/image_name.png "Title Text")
```



```
> Post-It:~# posts/my-second-post/|
```

My Second Post

Nov. 13, 2020

If there were no COVID, we would be able to come to the Mixed Reality Lab.

# images for Hugo

- https://github.com/adam-p/markdown-here/wiki/Markdown-Cheatsheet

```
![alt text](https://site.url/static/img/image_name.png "Title Text")
```

- For Hugo, some pitfalls remain:
  - **Folder Structure**:
    - Images in static/img/image.gif
    - Images organized by post (content piece)
    - post1.md post1/image.gif
- If the images do not appear:
  - Try adding **`canonifyURLs = true`** to the **`config.toml`**
  - Check whether **`baseURL`** is correct in the **`config.toml`**
  - Check whether images are loaded via **`http://`** or **`https://`**

# code blocks

- https://github.com/adam-p/markdown-here/wiki/Markdown-Cheatsheet

~~~
```javascript
var s = "JavaScript";
alert(s);
```
~~~

# tables

- https://github.com/adam-p/markdown-here/wiki/Markdown-Cheatsheet

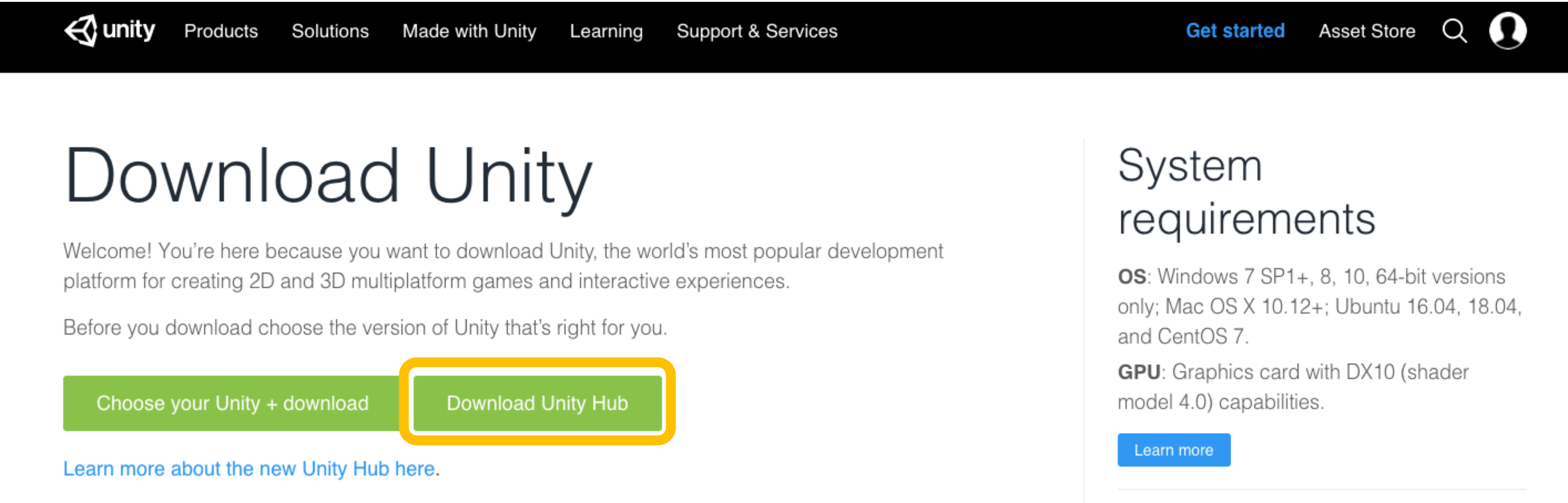
```
| col 1         | col 2         | col 3 |
| ------------- |:-------------:| -----:|
| a             |       a       |      a|
| b             |       b       |      b|
| c             |       c       |      c|
```

I. setup your website (hugo)

II. unity setup (2022.3.10f1)

# Environment setup

- Download and install **UnityHub** [https://unity3d.com/get-unity/download](https://unity3d.com/get-unity/download)
- [https://docs.unity3d.com/Manual/GettingStartedInstallingHub.html](https://docs.unity3d.com/Manual/GettingStartedInstallingHub.html)



## Download Unity

Welcome! You're here because you want to download Unity, the world's most popular development platform for creating 2D and 3D multiplatform games and interactive experiences.

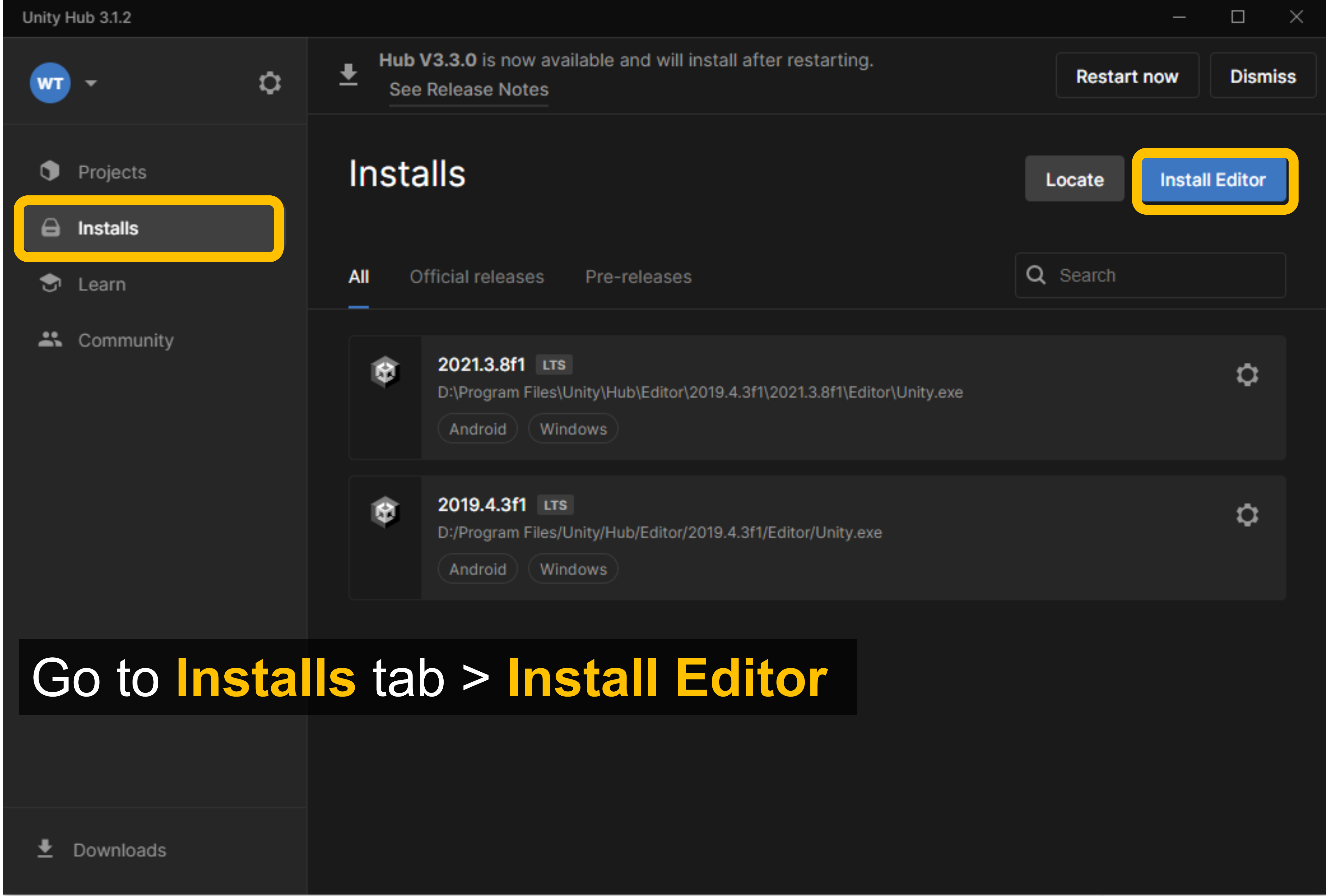
Before you download choose the version of Unity that's right for you.

Learn more about the new Unity Hub here.

## System requirements

**OS**: Windows 7 SP1+, 8, 10, 64-bit versions only; Mac OS X 10.12+; Ubuntu 16.04, 18.04, and CentOS 7.

**GPU**: Graphics card with DX10 (shader model 4.0) capabilities.



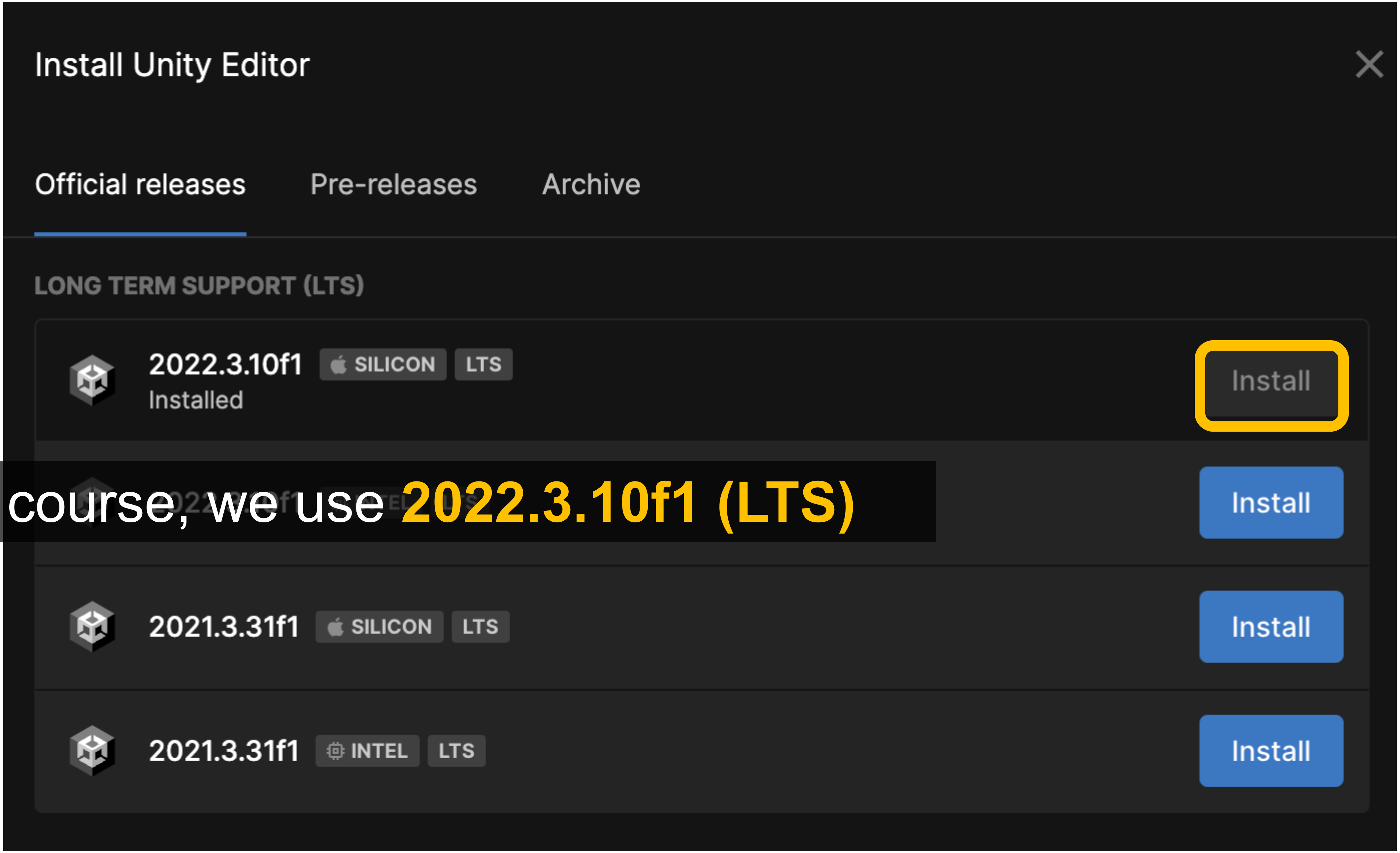
**Hub V3.3.0** is now available and will install after restarting.
See Release Notes

Installs

2021.3.8f1 LTS
D:\Program Files\Unity\Hub\Editor\2019.4.3f1\2021.3.8f1\Editor\Unity.exe
Android Windows

2019.4.3f1 LTS
D:/Program Files/Unity/Hub/Editor/2019.4.3f1/Editor/Unity.exe
Android Windows

Go to **Installs** tab > **Install Editor**



Install Unity Editor

Official releases   Pre-releases   Archive

LONG TERM SUPPORT (LTS)

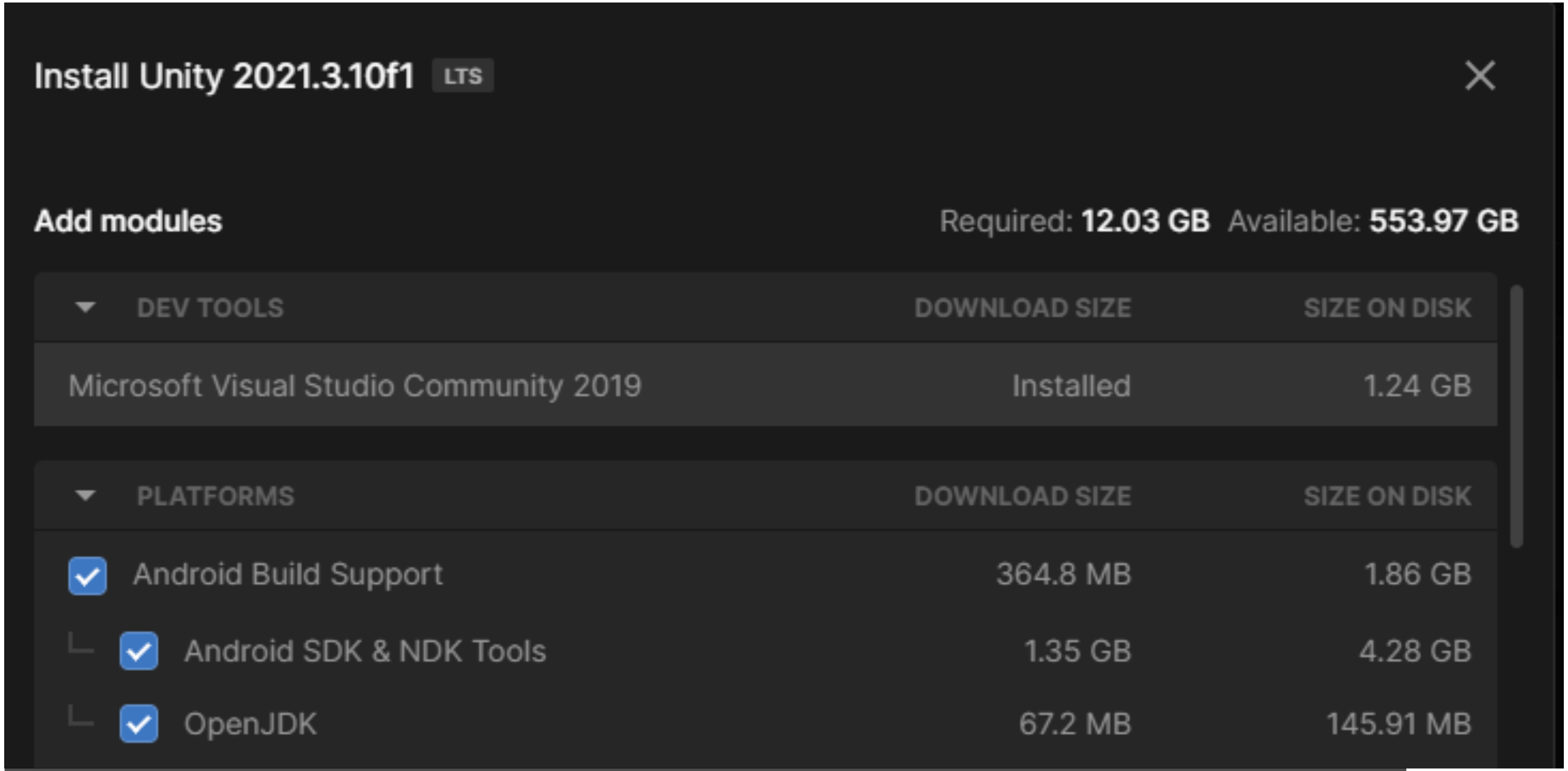
2022.3.10f1 SILICON LTS
Installed
Install

Install

2021.3.31f1 SILICON LTS
Install

2021.3.31f1 INTEL LTS
Install

In this course, we use **2022.3.10f1 (LTS)**



Install Unity 2021.3.10f1 LTS

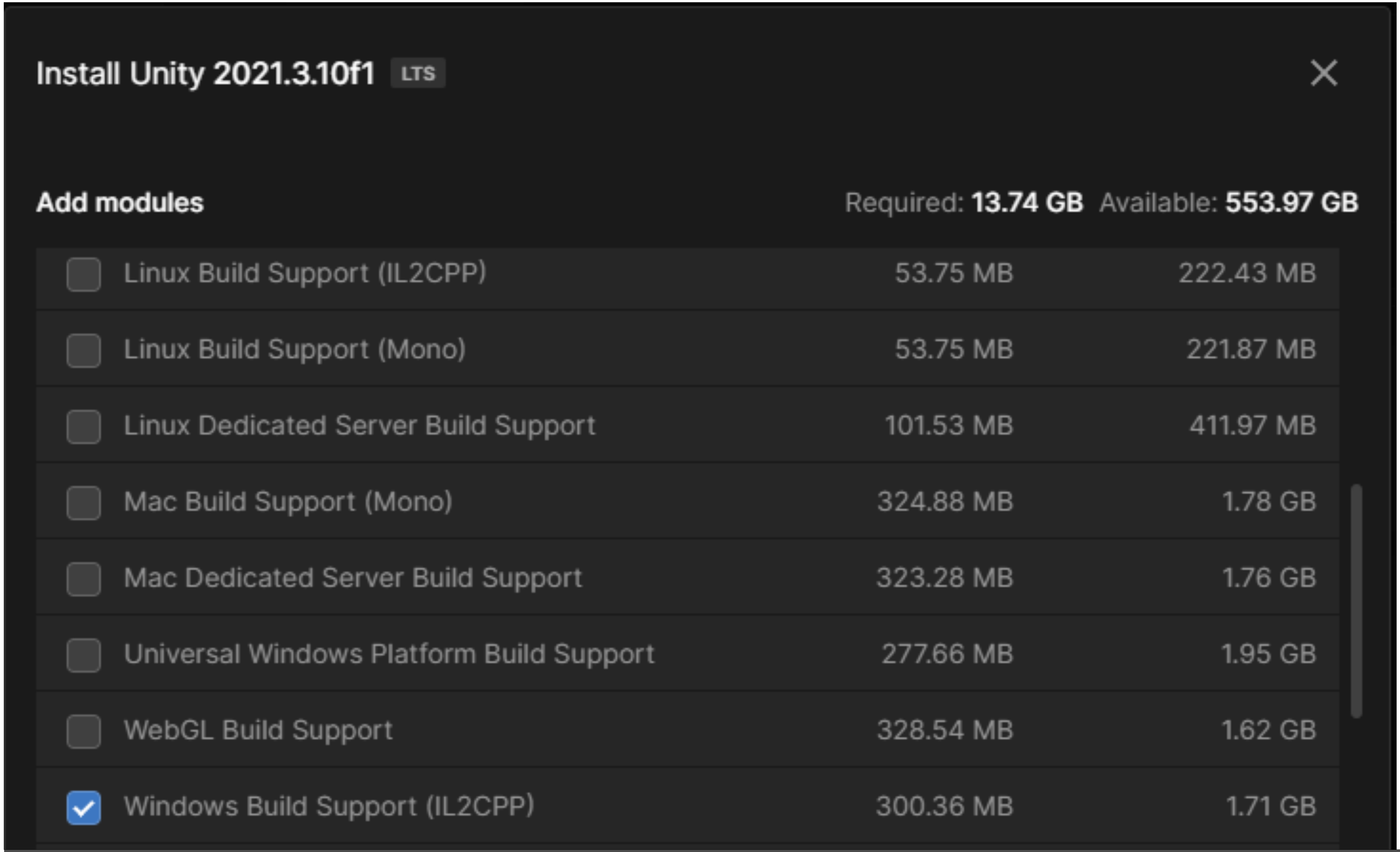
Add modules

Required: **12.03 GB** Available: **553.97 GB**

| DEV TOOLS | DOWNLOAD SIZE | SIZE ON DISK |
|---|---|---|
| Microsoft Visual Studio Community 2019 | Installed | 1.24 GB |

| PLATFORMS | DOWNLOAD SIZE | SIZE ON DISK |
|---|---|---|
| ☑ Android Build Support | 364.8 MB | 1.86 GB |
| └ ☑ Android SDK & NDK Tools | 1.35 GB | 4.28 GB |
| └ ☑ OpenJDK | 67.2 MB | 145.91 MB |

We need **Android Build Support** for Oculus Quest developing



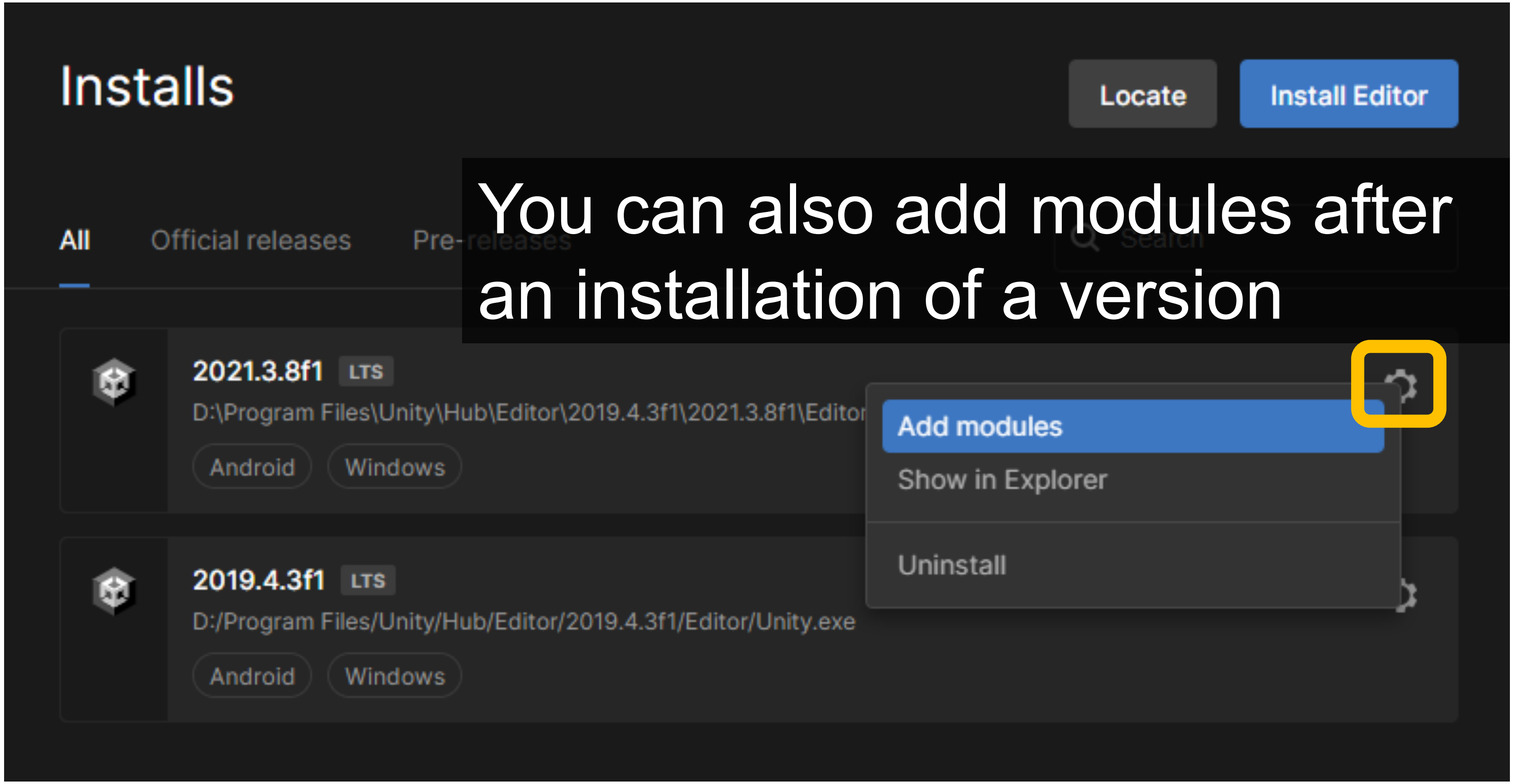
Install Unity 2021.3.10f1 LTS

Add modules

Required: **13.74 GB** Available: **553.97 GB**

| | | | |
|---|---|---|---|
| ☐ | Linux Build Support (IL2CPP) | 53.75 MB | 222.43 MB |
| ☐ | Linux Build Support (Mono) | 53.75 MB | 221.87 MB |
| ☐ | Linux Dedicated Server Build Support | 101.53 MB | 411.97 MB |
| ☐ | Mac Build Support (Mono) | 324.88 MB | 1.78 GB |
| ☐ | Mac Dedicated Server Build Support | 323.28 MB | 1.76 GB |
| ☐ | Universal Windows Platform Build Support | 277.66 MB | 1.95 GB |
| ☐ | WebGL Build Support | 328.54 MB | 1.62 GB |
| ☑ | Windows Build Support (IL2CPP) | 300.36 MB | 1.71 GB |

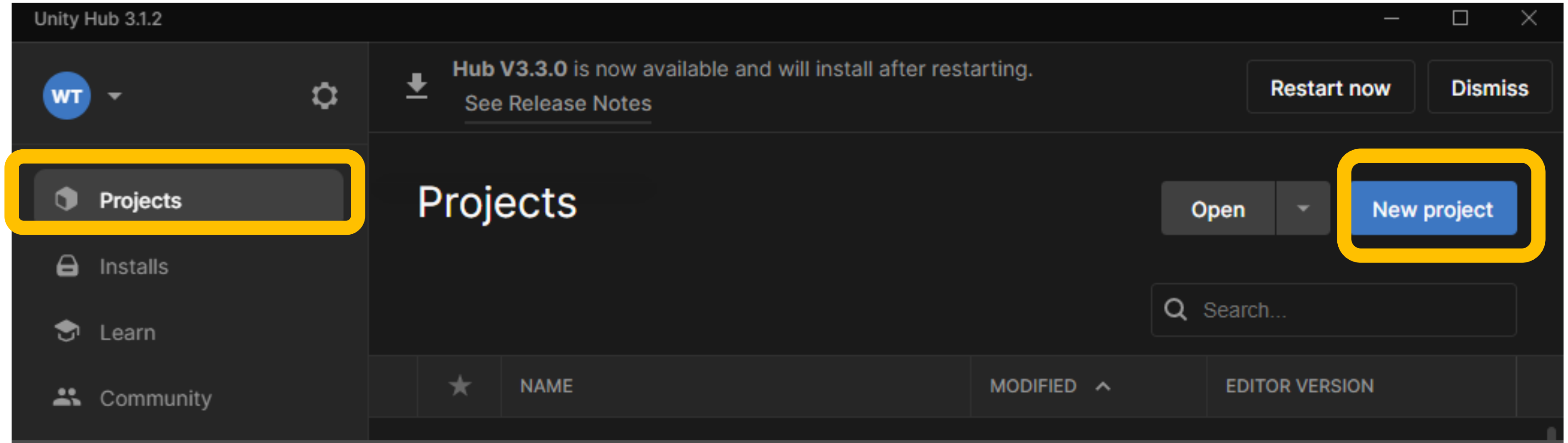
We also need **Windos Build Support (IL2CPP).**



You can also add modules after an installation of a version

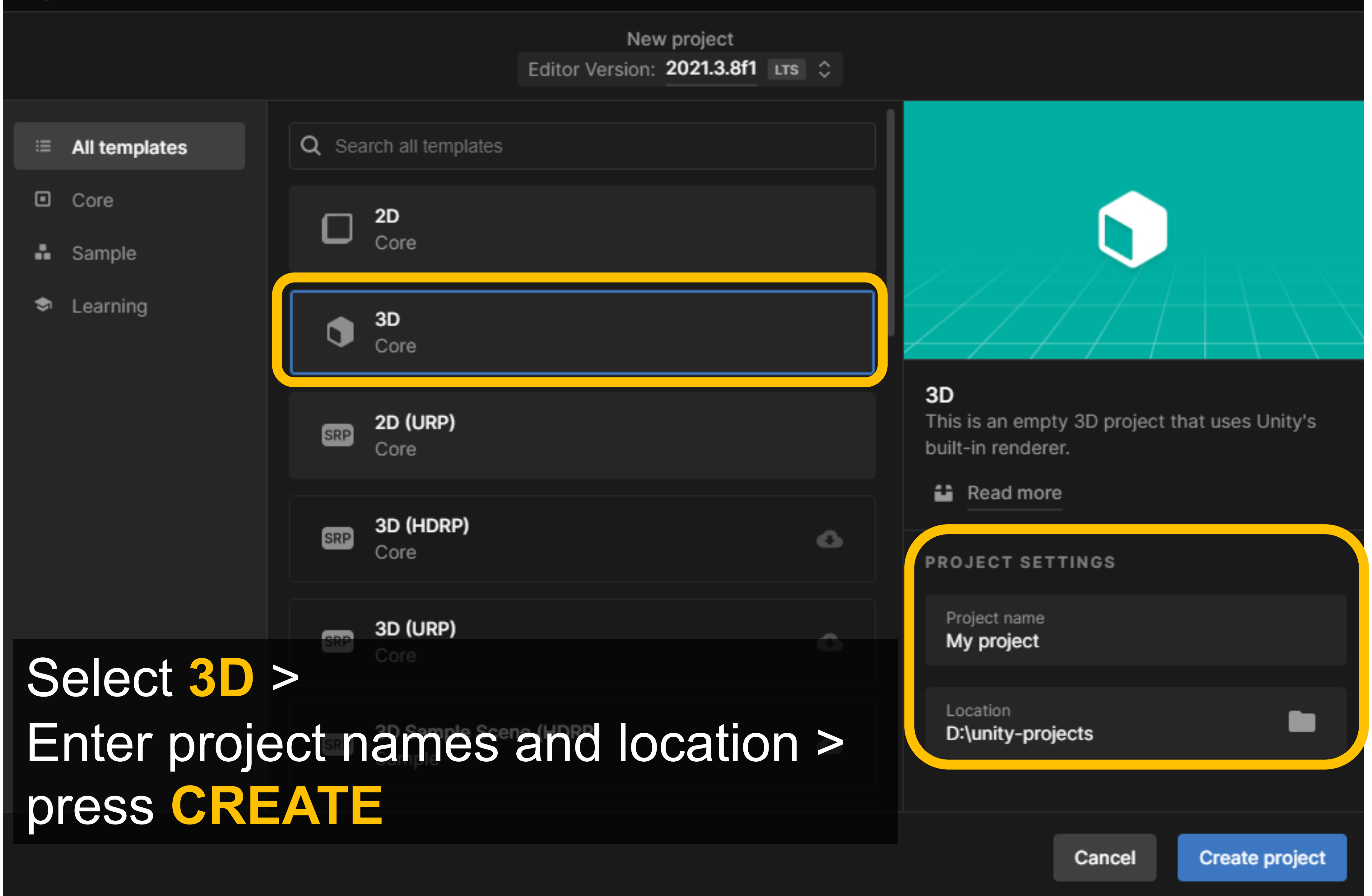
2021.3.8f1 LTS
D:\Program Files\Unity\Hub\Editor\2019.4.3f1\2021.3.8f1\Editor
Android Windows

2019.4.3f1 LTS
D:/Program Files/Unity/Hub/Editor/2019.4.3f1/Editor/Unity.exe
Android Windows



Hub V3.3.0 is now available and will install after restarting.

Go to **Projects** tab >
press **NEW** to create a new project



New project

Editor Version: 2021.3.8f1 LTS

3D

This is an empty 3D project that uses Unity's built-in renderer.

PROJECT SETTINGS

Project name: My project

Location: D:\unity-projects

Select **3D** >
Enter project names and location >
press **CREATE**

# Questions?