SMU Classification: Restricted

IS216 Web Application Development II

Week 1
Introduction

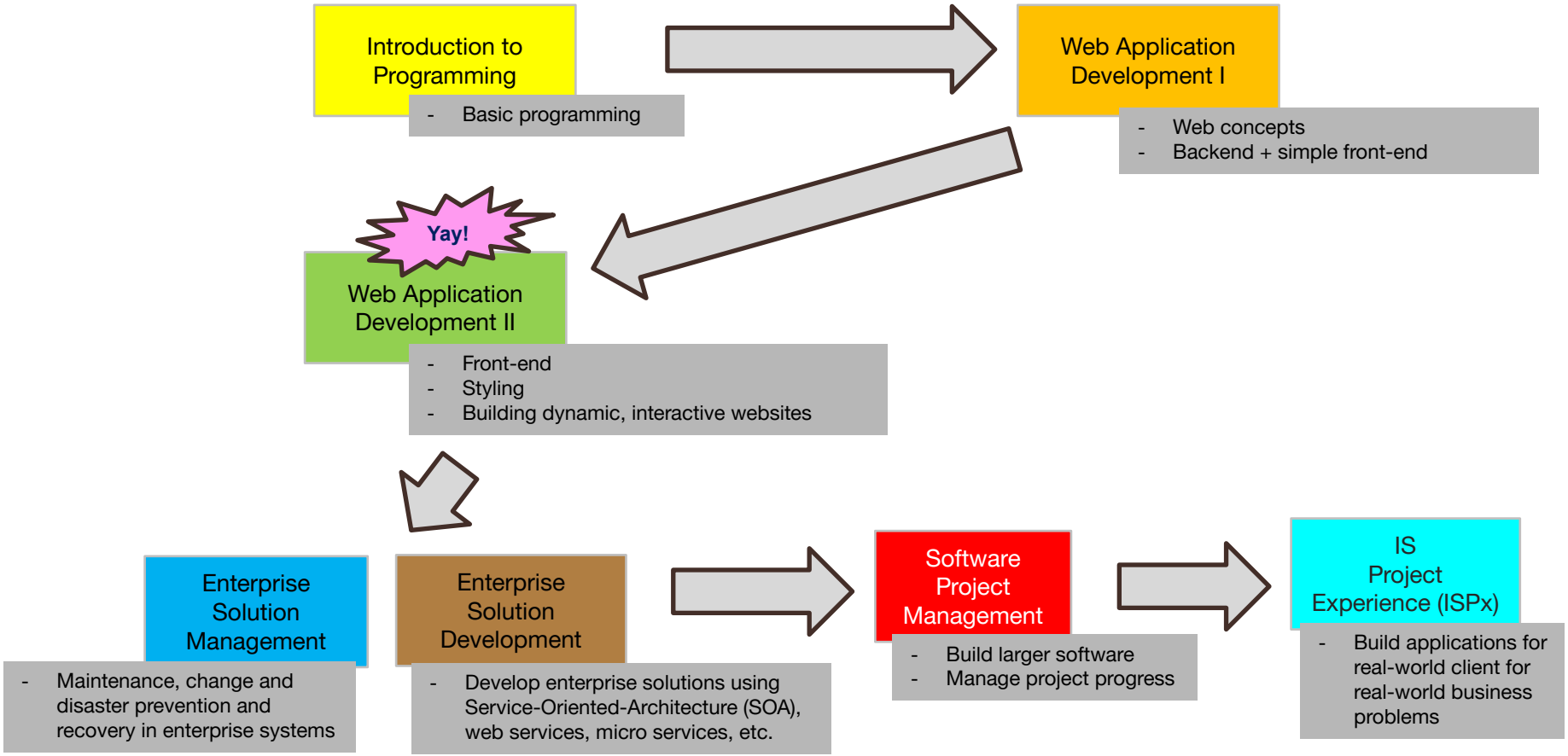
K. J. Shim
Sections: G3/G4

https://smu.sg/is216-krazy-2025-week1-intro

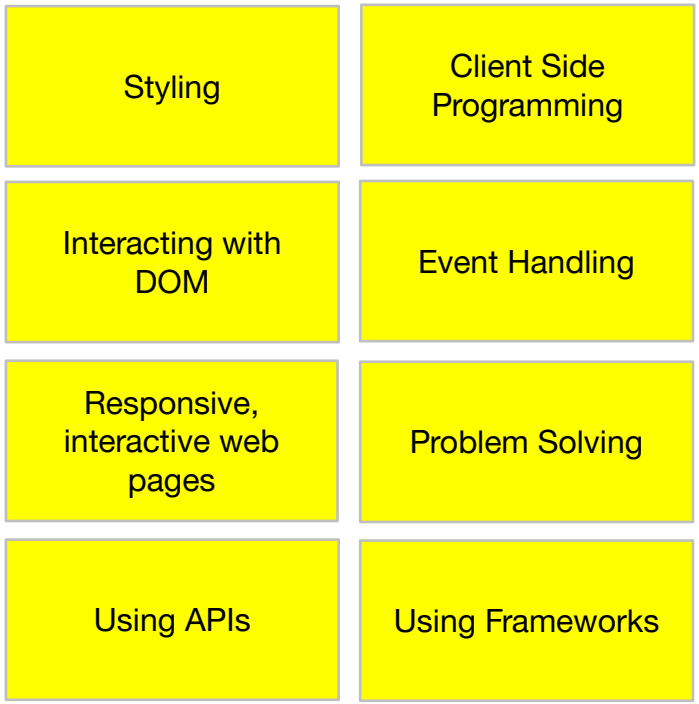
Menu

- Course introduction
- *Coffee Break*
- Tool setup
- Rapid prototyping a web page
- GitHub & GitHub Pages (Homework)

Course Linkages



Learning Objectives



Upon completion of the course, you will be able to:

- Explain the concept of **styling** and adding **responsive behaviors** to web pages
- Build well-styled, responsive web applications using **HTML**, **CSS**, **JavaScript**
- Connect to **APIs** and process **data from external sources** using JavaScript
- Use existing, available libraries or **frameworks** to build complex websites in an efficient, scalable manner

Learning Outcomes

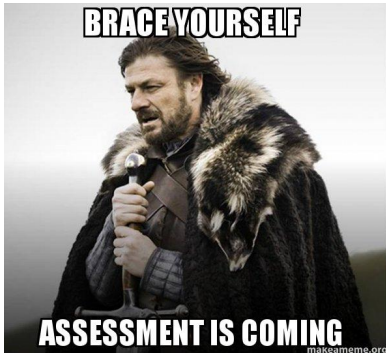
What are the program learning outcomes?

https://computing.smu.edu.sg/bsc-information-systems

Course design document and course learning outcomes

https://smu.sg/CDD-IS216

Assessments



Component	Grade %	Type
Lab Test 1 (1 hour 30 mins) *Live Coding, Open Book,* ***NO Internet*** *Use of ChatGPT, Co-Pilot (or similar LLMs) is strictly PROHIBITED* *Bring your own laptop computer*	25%	Individual
Final Exam - Lab Test 2 (2 hours) *Live Coding, Open Book,* ***NO Internet*** *Use of ChatGPT, Co-Pilot (or similar LLMs) is strictly PROHIBITED* *Bring your own laptop computer*	30%	Individual
Project	30%	Group
Class Participation • eLearn Quiz x 4 • In-Class Activities *(Peer Help, Sharing)* • Slack *(Peer Help)* • Assignments	15%	Individual

Learning Plan

Week	Topic	Remark	Assessments
1	Course Intro, Tool installation, WWW/HTML Recap		
2	CSS – Part 1	Properties, Box Model, Positioning	
3	CSS – Part 2	Bootstrap **Project Briefing**	
4	DIY e-Learning ***(complete before Week 4 lesson)*** JavaScript – Part 1	Syntax, basic operations	
4	JavaScript – Part 2	DOM, event handling **Register Project Group** *(lesson start time)*	**Quiz 1** (CSS + Bootstrap) Due: **12-SEP-2025 (FRI) 11:59PM**
5	JavaScript – Part 3	JSON, Asynchronous calls (Axios, APIs)	
6	Vue.js – Part 1	Basics	**Quiz 2** (JavaScript) Due: **26-SEP-2025 (FRI) 11:59PM**
7	Vue.js – Part 2	Event Handling **Project Proposal Due (Friday, 11:59 PM)**	**Lab Test 1 (25%)** **3-OCT-2025 (FRI) 4PM-5:30PM** **Scope**: Weeks 1-5
8	**Recess Week** *(No Lesson)*		

Learning Plan

Week	Topic	Remark	Assessments
9	Project Progress Pitch (5%)		**5-min pitch + ~10-min feedback / Q&A**
10	Vue.js – Part 3	Components	**Quiz 3** (Vue Parts 1-2) Due: **7-NOV-2025 (FRI) 11:59PM**
11	Vue.js – Part 4	Vue application	**Quiz 4** (Vue Part 3) Due: **17-NOV-2025 (MON) 11:59PM**
12	Project Work Week *(consultation)*		**Project Deliverables DUE Sunday 11:59 PM SG Time**
13	Project Presentation (25%)		
14	Study Week		
16	Exam Week		**Final Exam (30%)** **(Lab Test 2)** **3-DEC-2025 WED 8:30AM-10:30AM** **Scope**: Weeks 1-10

Project (30%)

- **Group size**: 3-6 students
- **How to find group mates?**
  - *Find on your own + Match-making (if you opt for it)*
- **Project topic**
  - Propose your own topic
- **Project Information**
  - Please read the **Project Briefing** document carefully & thoroughly.
  - **eLearn IS216-G3/G4 → Content → Project → IS216 Project Briefing Document**
- **Deadlines**
  - Register **group members** in **eLearn → Group Info → Groups** by **Week 4** ***(lesson start time)***
    - **G3**: select any available group # between 1 and 10 (both inclusive)
    - **G4**: select any available group # between 11 and 20 (both inclusive)
  - Project **proposal** is due in **Week 7 (Friday, 11:59PM SG Time)**
    - *Teaching team will provide feedback by Week 8 (Wednesday 12PM SG Time).*
    - You can **submit early** as soon as you've put together ideas. Just **Slack** any of the teaching team members – and we will provide feedback.
  - Project is due in **Week 12 (end of the week, Sunday 11:59PM SG Time).** *You must submit all deliverables by then.*
  - Project presentation is to be delivered in **Week 13** during lesson time *(physically in class)*.

Quiz x 4 *(Part of your Class Participation Grade)*

- **When are the quizzes?**
  - Refer to the **Learning Plan** & **Quiz release/due dates** (see below)
    - *Multiple unlimited attempts allowed*
  - *Teaching team will take the **highest achieved score** for grading (after the Final Exam)*
- **Where are the quizzes?**
  - **eLearn** IS216-All-Sections-MERGED → **Quizzes** → **Quiz Y** *where **Y** denotes a quiz number*

Quiz 1 - CSS + Bootstrap

Due on Sep 12, 2025 11:59 PM

Available on Sep 1, 2025 8:00 AM until Sep 12, 2025 11:59 PM

Quiz 3 - AJAX + Vue.JS Basics

Due on Nov 7, 2025 11:59 PM

Available on Oct 27, 2025 8:00 AM until Nov 7, 2025 11:59 PM

Quiz 2 - JavaScript Basics, DOM & Events

Due on Sep 26, 2025 11:59 PM

Available on Sep 15, 2025 8:00 AM until Sep 26, 2025 11:59 PM

Quiz 4 - Vue Part II & III

Due on Nov 17, 2025 11:59 PM

Available on Nov 3, 2025 8:00 AM until Nov 17, 2025 11:59 PM

Late Submission Policy

- 1 hour late: 10% penalty
- Beyond 1 hour: 100% penalty *(we no longer accept submissions)*
- This policy applies to:
  - Lab Tests
  - Project
  - And other graded submissions requested by the teaching team

Make-Up Policy

Lab Test 1

No makeup

If you have an MC or official reason that we deem valid, your Lab Test 1 score will be combined into the **Final Exam** (Lab Test 2). That is, your **Final Exam** (Lab Test 2) weightage will become 55% instead of 30%.

Following the university's valid excuse documentary proof submission policy, you will need to **submit documentary proof within 24 hours of missed lesson or missed lab test.**

Final Exam

No makeup by default

We will follow SMU's university-wide policy.

Lab Test 1

- **Date/time:** 3-OCT-2025 (FRI) 4PM-5:30PM SG Time **(Week 7, Friday)**

- Please **CHECK** for any **conflicts** with **other SMU tests/exams**
  - For example, if you're enrolled in **COR2100 Economics and Society**, please check with your faculty **ASAP** on **when your midterm exam will be** (date/time).
  - In the past, that module scheduled their midterm in **Week 7** on **Friday afternoon 4PM+**.
  - IS216 is a **core module** spanning **11 sections**. Hence, **we are unable to re-schedule our Lab Test 1** (venues/invigilators are already booked).
  - Please work with your other SMU module faculty to make alternate arrangements.
  - If you have any questions or concerns in this regard, please do not hesitate to speak to **Kyong** and she'll assist you.

Incomplete ("I") Grade

- A student must fulfill **ALL** criteria listed below before an “I” grade can be awarded:
  - The student is unable to fulfill the course requirement either because of an illness or extenuating circumstances beyond his/her control (relevant documentary evidence must be submitted).
  - Student must achieve at least 75% attendance in the course.
  - Student is NOT eligible for “I” grade if he/she misses **Lab Test 1** even with valid reasons.
  - Student's academic performance must be satisfactory (accumulated score for all attempted components must be **at least be 45%** of total possible score).

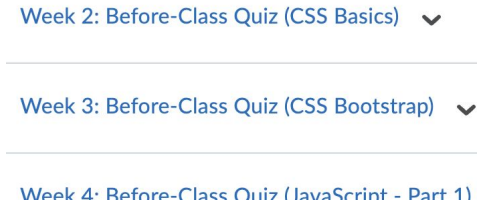
Flipped Classroom

- *"A flipped classroom is an instructional strategy and a type of blended learning, which aims to increase student engagement and learning by having students complete readings at their home and work on live problem-solving during class time."* (Wikipedia)
- In most weeks, you will see the below when you visit **eLearn → Content → Week X** *where **X** denotes a lesson week.*

Before Class

Complete **readings**, **videos**, **pre-class quiz** by 1 day (24 hours) before your lesson time.
All **before-class quizzes** are already available for your viewing in:

- **eLearn IS216-G3/G4 → Quizzes →**



In Class

In class lesson will be a mix of **concept recap** (at the start), **code demo** (by teaching team), and **coding** (by students) in cycles.
*You COULD be paired up randomly with a stranger to **code & debug together*** and **present your solution(s)** in class.

After Class

Extra Exercises (OneDrive documents) are available for you to attempt in most weeks.
More **code challenges** (instructions in YouTube videos) are available in some weeks.
Students are encouraged to **exchange** hints/tips/Q&As in **Slack #troubleshoot**.

Academic Integrity

- All acts of academic dishonesty (including, but not limited to, plagiarism, cheating, fabrication, facilitation of acts of academic dishonesty by others, unauthorized possession of exam questions, or tampering with the academic work of other students) are serious offences.
- All work (whether oral or written) submitted for purposes of assessment must be the student's own work. Penalties for violation of the policy range from zero marks for the component assessment to expulsion, depending on the nature of the offence.
- When in doubt, students should consult the instructors of the course.
- Details on the SMU code of Academic Integrity may be accessed as follows:
  - SMU Code of Student Conduct at https://smu.sharepoint.com/:b:/s/ucsc/EckGb3E43zVAp_5o8rKtmUsB02-X_wD02SvGbjri32o3QQ and,
  - SMU Student Disciplinary Code at https://smu.sharepoint.com/:b:/s/ucsc/EQyaUPb3FYlOpO1FD50uXKwBnL0Ha8OMhDDMqRTunOLymg

Plagiarism Management

- If you plagiarize, e.g. copy other people's work for your project or cheat in any IS216 assessments, this is the process we will follow:

Detection	Investigation	Sanctions
• E-learn team or Faculty • Inform SCIS Dean's Office (Jeandie LIM)	• E-learn team or Faculty • SCIS Dean's Office • SMU Office of Dean of Students	• SMU Office of Dean of Students • SCIS Dean's Office • SMU Registrar's Office

Copyright of Course Materials

Course materials obtained during your course of study at SMU are meant for personal use only, namely, for the purposes of studying and research. **You are strictly not permitted to make copies of or print additional copies or distribute such copies of the course materials or any parts thereof, for commercial gain or exchange**. For example, **offering such materials on the Internet through CourseHero, Carousell and the like, is strictly prohibited**.

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Please also note that for some materials, the publishers may specifically state that each copy is for the personal use of one individual only and no further reprographic reproduction is allowed, including for personal use. These restrictions are spelt out clearly on these specific sets of resources and students are required to adhere to these rules.

Students who infringe any of the aforesaid rules, laws and requirements shall be liable to disciplinary action by SMU. In addition, such students may also leave themselves open to suits by copyright owners who are entitled to take legal action against persons who infringe their copyright.

We strongly urge all students to respect the copyright laws and abide by SMU's procedures and requirements relating to copyright.

References

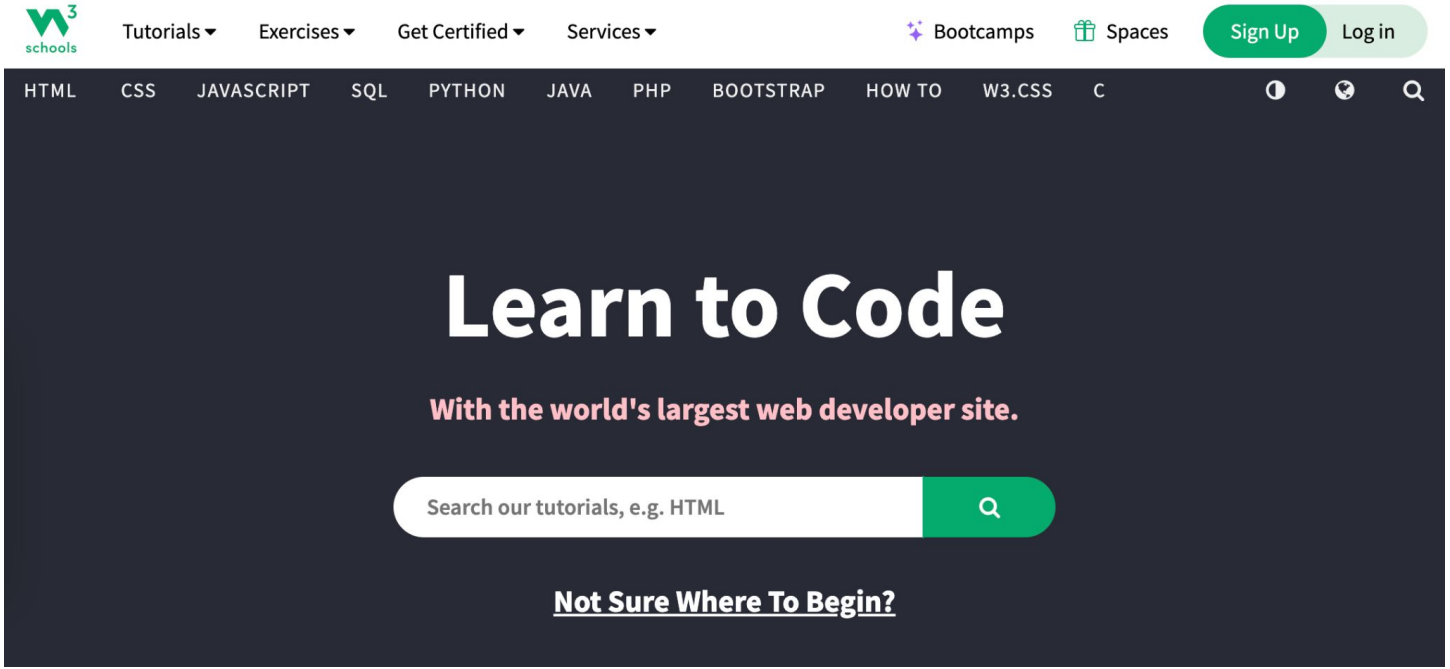
SMU has free O'Reilly resource to these books & more, sign if via your SMU Google's account to gain access.

- Learning PHP, MySQL & JavaScript, 7th edition, O'Reilly, Robin Nixon, ISBN13: 978-1098152352
- Vue.js 3 in Action, Marcus C. Lauritsen, ISBN13: 979-8291099803
- Online resources will be provided for each topic.

Learning by doing.

Other Resources

https://www.w3schools.com/



Other Resources

YouTube

web development tutorial

HTML Tutorial for Beginners: HTML Crash Course

7M views • 2 years ago

Programming with Mosh

⭐ Want to learn more from me? Check out these links: Courses: https://codewithmosh.com Twitter: ...

2:44 We're going to start our **web development** journey here in every section you will learn something new about **web development** ...

Frontend Web Development Bootcamp Course (JavaScript, HTML, CSS)

1.9M views • 11 months ago

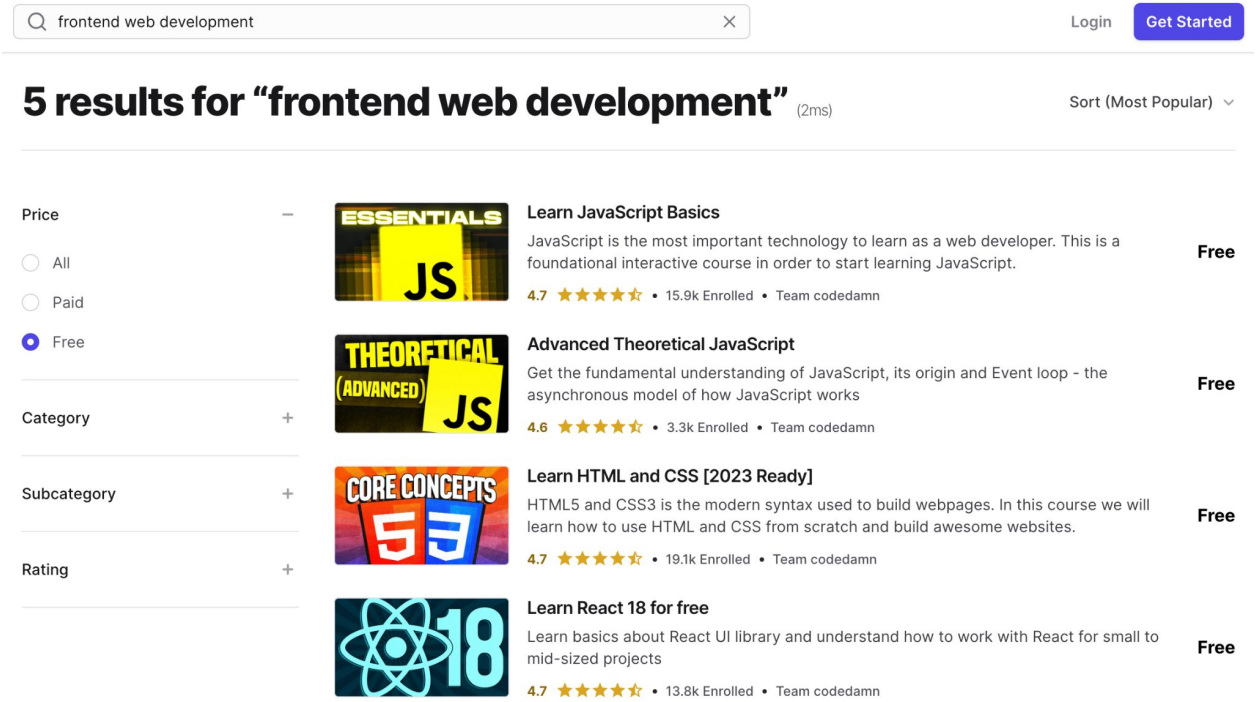
freeCodeCamp.org

Learn JavaScript, HTML, and CSS in this Frontend **Web Development** course. In this massive course, you will go from no coding ...

Introduction | Your first JavaScript program | What is JavaScript? | JavaScript variables | Basic... 31 chapters

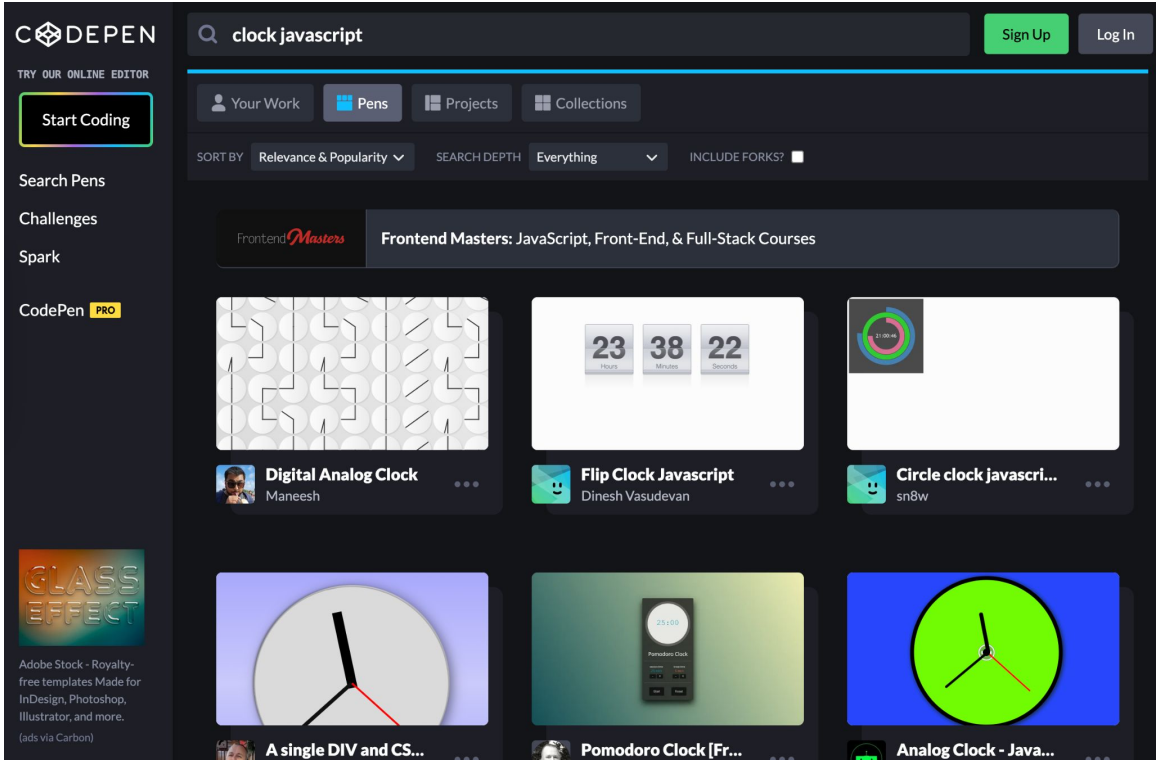
Other Resources

https://codedamn.com/



Other Resources

https://codepen.io/



Sections & Faculty

Day	Section	Time	Venue	Lecturer
Monday	G1	08:15 - 11:30	SCIS1 SR 2-3	SHAR Lwin Khin
Monday	G2	15:30 - 18:45	SCIS1 SR 2-3	SHAR Lwin Khin
Tuesday	G8	08:15 - 11:30	SCIS1 SR 2-2	Keith FWA Hua Leong
Tuesday	G9	12:00 - 15:15	SCIS1 SR 2-2	Keith FWA Hua Leong
Wednesday	G10	08:15 - 11:30	SCIS1 SR 2-2	Keith FWA Hua Leong
Wednesday	G11	12:00 - 15:15	SOE/SCIS2 SR B1-1	Jason CHUI
Thursday	G5	08:15 - 11:30	SCIS1 SR 2-3	MOK Heng Ngee
Thursday	G3	12:00 - 15:15	SOE/SCIS1 Computing Lab B1-1	Kyong Jin SHIM
Thursday	G4	15:30 - 18:45	SOE/SCIS1 Computing Lab B1-1	Kyong Jin SHIM
Friday	G6	08:15 - 11:30	SCIS1 SR 2-2	MOK Heng Ngee
Friday	G7	12:00 - 15:15	SCIS1 SR 2-2	MOK Heng Ngee

Sections & Teaching Assistants (TAs)

Section	Teaching Assistant
G1	FONG Shi Hui (shihui.fong.2023@scis.smu.edu.sg)
G2	ANG Zhao Feng (zfang.2023@scis.smu.edu.sg)
G3	Johnny KAUNG Nyan Lin (nl.kaung.2023@scis.smu.edu.sg)
G4	Ka Yong LEE (kayong.lee.2023@scis.smu.edu.sg)
G5	FU Dahai (dahai.fu.2023@scis.smu.edu.sg)
G6	Kainoa HO (kainoa.ho.2023@scis.smu.edu.sg)
G7	TAY Kai Sheng (kstay.2023@scis.smu.edu.sg)
G8	Louis Hartawan (louish.2023@scis.smu.edu.sg)
G9	YAP Jun Yu (junyu.yap.2023@scis.smu.edu.sg)
G10	Ernest HENG Meng Wee (ernest.heng.2023@scis.smu.edu.sg)
G11	TAY Yee Teng (yeeteng.tay.2023@scis.smu.edu.sg)

Want to attend a *make-up* lesson in another section?

Please do the following:

- Email the **faculty** of the section you wish to attend - and identify yourself:
    - "I am XXX from Kyong's IS216 section G_. I won't be able to attend her lesson due to ABCDE. Thus, I wish to attend your section G_."
        - Replace **ABCDE** with a valid reason.
    - **Please make sure to CC Kyong (kjshim@smu.edu.sg)** and your section TA for record keeping purposes.

Use of eLearn sites

There are TWO (2) eLearn sites.

- IS216-G3/G4 eLearn site: https://elearn.smu.edu.sg/d2l/home/427744
  - Primarily, we will use **THIS** eLearn site for content sharing and **Before-Class quizzes** (not graded) for G3/G4 sections.

- IS216-All-Sections-MERGED eLearn site: https://elearn.smu.edu.sg/d2l/home/430380
  - We will use this for **course-wide** *(all sections)* announcements.
  - You can also find the **4 Graded Quizzes**.

Help Us Understand Your Technical Background

Please help complete this form **NOW** before we go for a break. THANK YOU! 🙏

G3 - https://forms.gle/3PNupJdmjcePVRKBA

G4 - https://forms.gle/6ZSPpkJ6BB8TvAdc8

Teaching Team

Kyong SHIM
SCIS Level 5, Room 5020
kjshim@smu.edu.sg

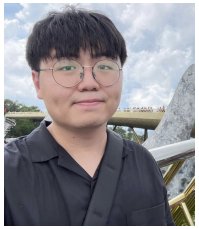
G3 G4

Johnny KUANG Nyan Lin
Somewhere on campus
nl.kaung.2023@scis.smu.edu.sg

G3

Chee Chein WONG
SCIS Level 2 Learning Way
ccwong@smu.edu.sg

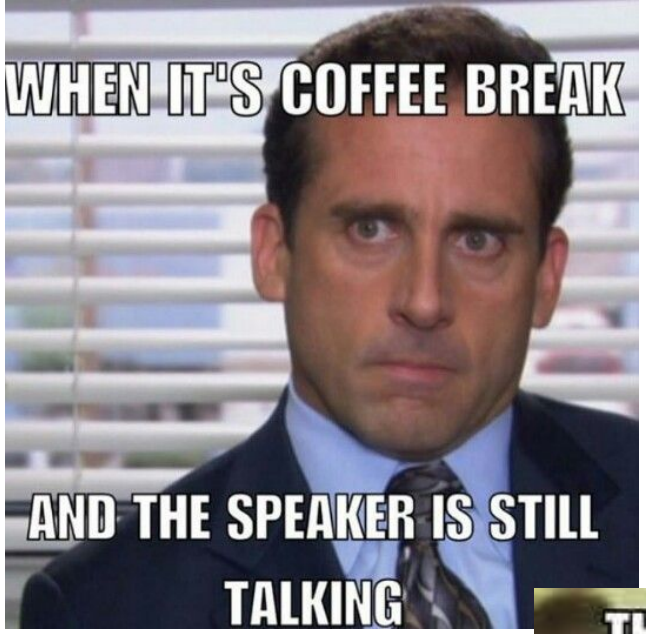
G3 G4



Ka Yong LEE
Somewhere on campus
kayong.lee.2023@scis.smu.edu.sg

G4

ALWAYS GIVE
100% AT WORK
MON - 14%
TUES - 26%
WED - 42%
THU - 15%
FRI - 3%


WHEN IT'S COFFEE BREAK
AND THE SPEAKER IS STILL
TALKING

THERE IS AN IDEAL TIME TO
DRINK COFFEE? FALSE.
ALL DAY, EVERY DAY IS THE IDEAL
TIME TO DRINK COFFEE.
memecrunch.com

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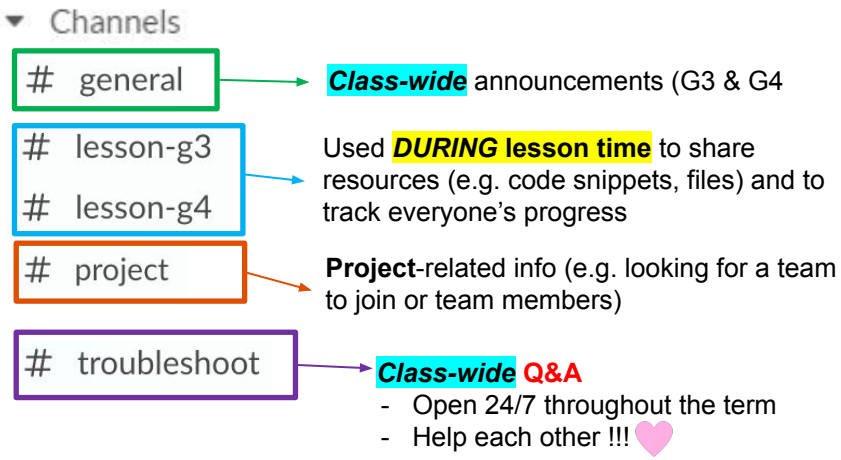
Development & Collaboration Tools

Communication

https://**is216-oppa**.slack.com/



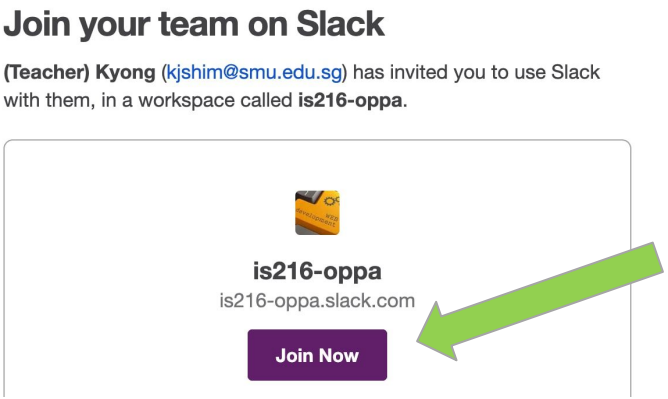
Email

- We will use **Slack** as the main communication channel. Turn on **notification** or check **Slack** everyday.
- Teaching team will use **Email** for **emergencies** only.

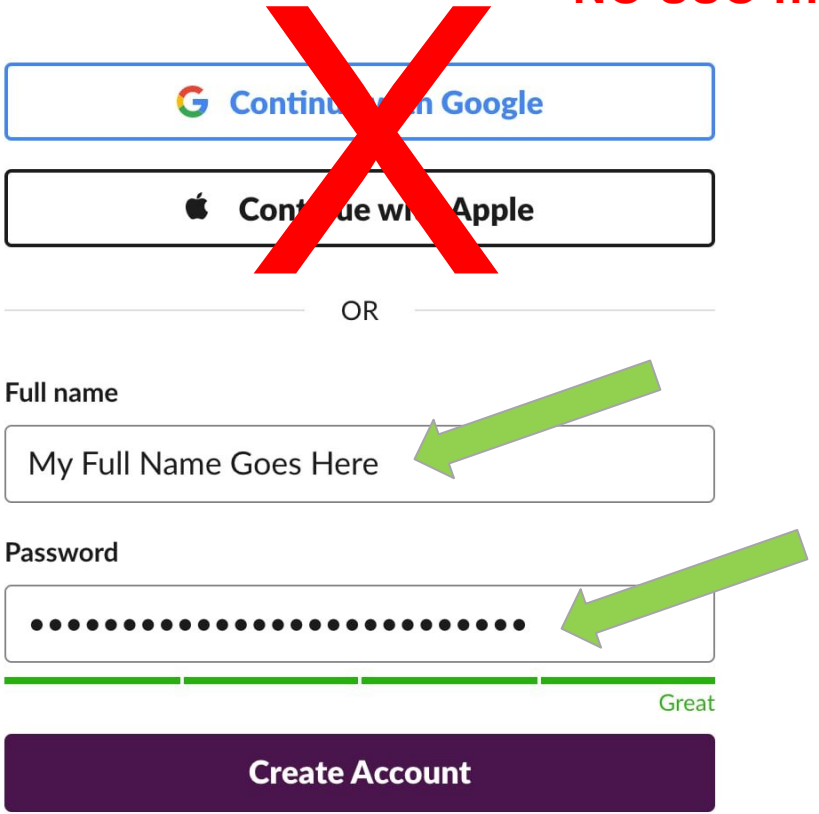
Communication

Slack

- Download & install **Slack client** on your **laptop** and **mobile phone**
- Check your **SCHOOL.SMU Email**
  *(Look for an email from **Slack**)*
  e.g. selena.gomez.2024@**computing.smu.edu.sg**



NO SSO !!!

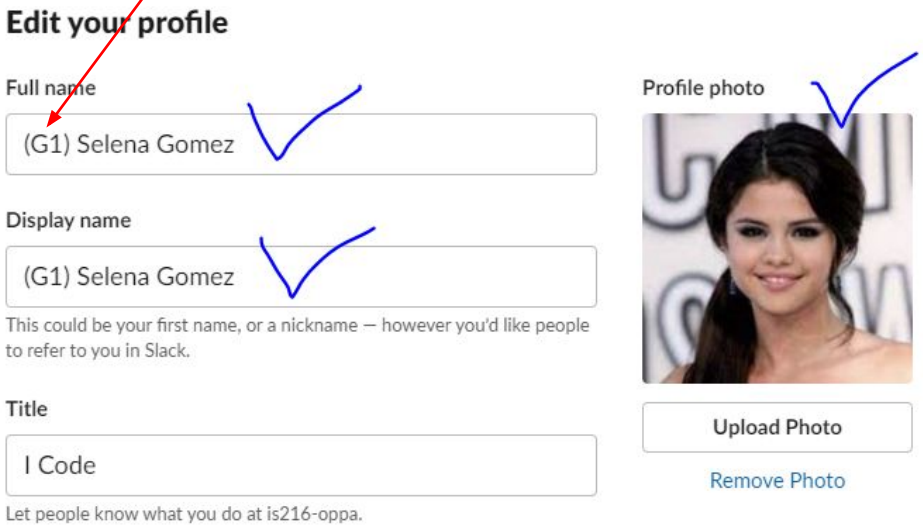


Communication

- Upon sign-in, do the following:
  1. Update <u>both</u> **Full name** and **Display name**
     - Use **Full Legal Name** ***(as shown your SMU Student Card)***
  2. Upload **profile "face" photo** (must show your face clearly without mask)

- Have technical questions? Unable to resolve bugs? Have (better) solutions to coding exercises?
  - Post it in **#troubleshoot** channel
  - *Peer learning* – get help & help others as well
  - If you **DM** teaching team members, they will ask you to post your questions/comments in **#troubleshoot** so that other students can also benefit from the Q&A.

(Your_Section)
e.g. (G3) Taylor SWIFT
(G4) Mingyu SEVENTEEN



Development

Visual Studio Code

- https://code.visualstudio.com/download
- Download & install the latest version
- All code/lab demos will be using VSCode
- If you wish to use another editor (e.g. Atom), it's ALRIGHT ~~ as long as you can follow us in class.

Google Chrome (web browser)

- Download the *latest* version

WAMP

- **eLearn IS216-G3/G4 → Content → Week 1→ In Class → WAMP & MAMP Installation**

Mac Users

- **eLearn IS216-G3/G4 → Content → Week 1→ In Class → WAMP & MAMP Installation**
- **MAMP or XAMPP both should do**
- *Please take note of HTTP and MySQL port numbers*

Please test and verify it works! In web browser, go to:

- http://localhost/ *(what do you see?)*
- http://localhost/phpmyadmin *(do you see MySQL login page?)*

Some coding exercises may require PHP/MySQL back-end, thus, we require you to have this setup checked.

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Rapid Prototyping

Fan Page
with
Gen AI Tools

(30 mins build + 20 mins showcase)

Mission

- Rapid prototype a Justin Bieber fan page using HTML, CSS, and JavaScript. **Don’t use any frameworks** - only use vanilla HTML, CSS & JavaScript.
  - Name the main file **fanpage.html**

- Check in **Slack #lesson-g3** or **#lesson-g4** for sample photos you can use.
  - Feel free to search online for more photos or videos.

Mission

- *Correct* - most of you probably only learned HTML.

- Don’t worry - you can **seek help** !!! Consider using ChatGPT or similar.
  - Have a “conversation” with your choice of Gen AI.
  - Think about what **prompts** to give to the tool to attain desired output.
  - Think about what **features** can be included in a fan page.

Rapid Prototyping

- **Speed over perfection**
  You are to develop a working version quickly, without worrying about polish like perfect images, branding, or performance optimization.
- **Functional early model**
  The HTML, CSS, and JavaScript give you a usable webpage structure that you can open in a browser, interact with, and show others.
- **Iterative potential**
  Once you have a working model, you can test it, collect feedback, and then refine the design, layout, or functionality.
- **User-centered learning**
  If you showed this page to actual fans or stakeholders, their reactions would guide the next version before you invest more effort. **Ask your neighbors for feedback** - what can be improved? What would **Justin Bieber fans** really want to see in the fan page?

Rapid Prototyping ≠ Production-Ready

A production-ready site would involve:

- Accessibility checks and cross-browser testing
- Proper image assets and media rights
- Optimization for performance and Search Engine Optimization (SEO)
- Backend/database integration for fan club sign-up Firebase supabase
- Deployment and hosting infrastructure (e.g. cloud platforms)

aws Google Cloud Vercel netlify

Host the fan webpage locally

- As a start, host the web page (one or more files) at your computer's **localhost**.

- Recall from IS113
  - Where is your **webroot**?
  - How do you access a webpage (e.g. HTML file) from a web browser?
  - Can't see your web page? What is the error message? Are you certain your web server is using port 80 for HTTP? Where can you check and verify it?

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Creating a Personal Website

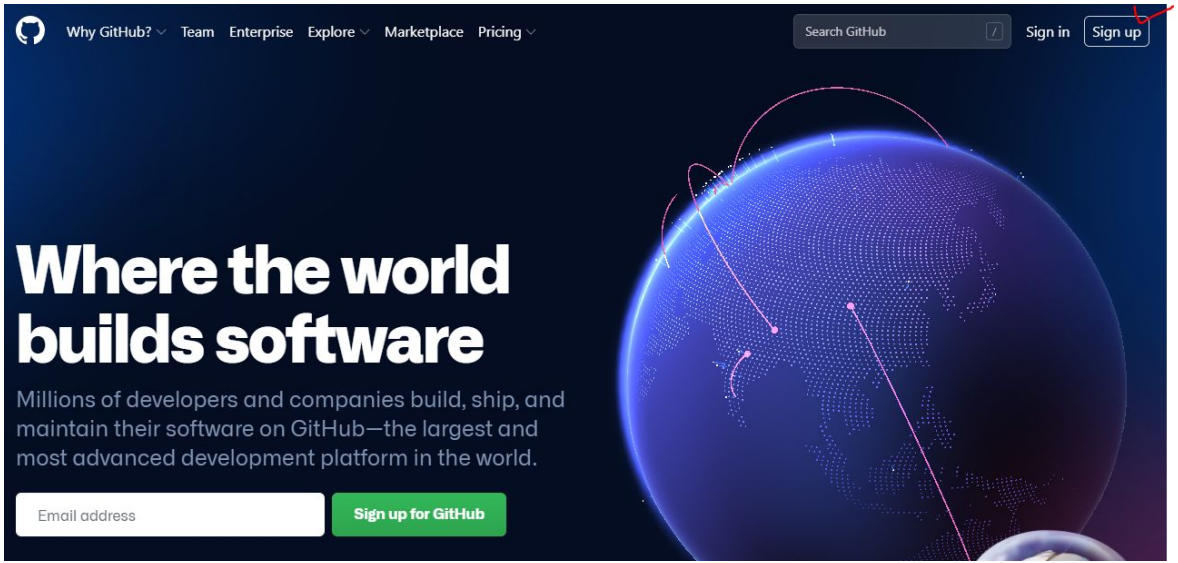
Using GitHub Pages

Homework

(Mandatory - It's FUN - You won't wanna miss it)

Create a GitHub account

- Go to GitHub: https://github.com/
- Sign up either with your **SMU Email Address** (e.g. bobby.kim.2024@scis.smu.edu.sg) OR with your **personal email address**.
- Should you choose the latter option, **please make sure to add your SMU Email Address** as the **secondary email.** You can do this in Account → Settings → Emails.
- *Please make sure to **verify** your email.*



GitHub Desktop

- Download from https://desktop.github.com/

- *WAIT…* we will walk you through later

Download & Install Git

- **Windows Users ONLY !!!**
- ***MacOS already comes with git pre-installed***
- Go to Git: https://git-scm.com/downloads
- Download and install the latest version.

- Both **Windows** and **Mac** users, do the following:

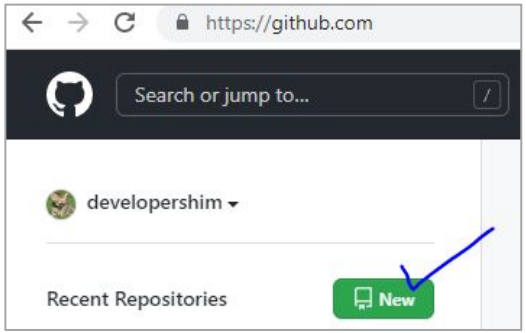
Go open **Command** (Windows) or Go to **Terminal** (Mac)

```
git config --global user.name "FIRST_NAME LAST_NAME"

git config --global user.email "MY_NAME@example.com"

git config --list
```

Your **GitHub Account** email address

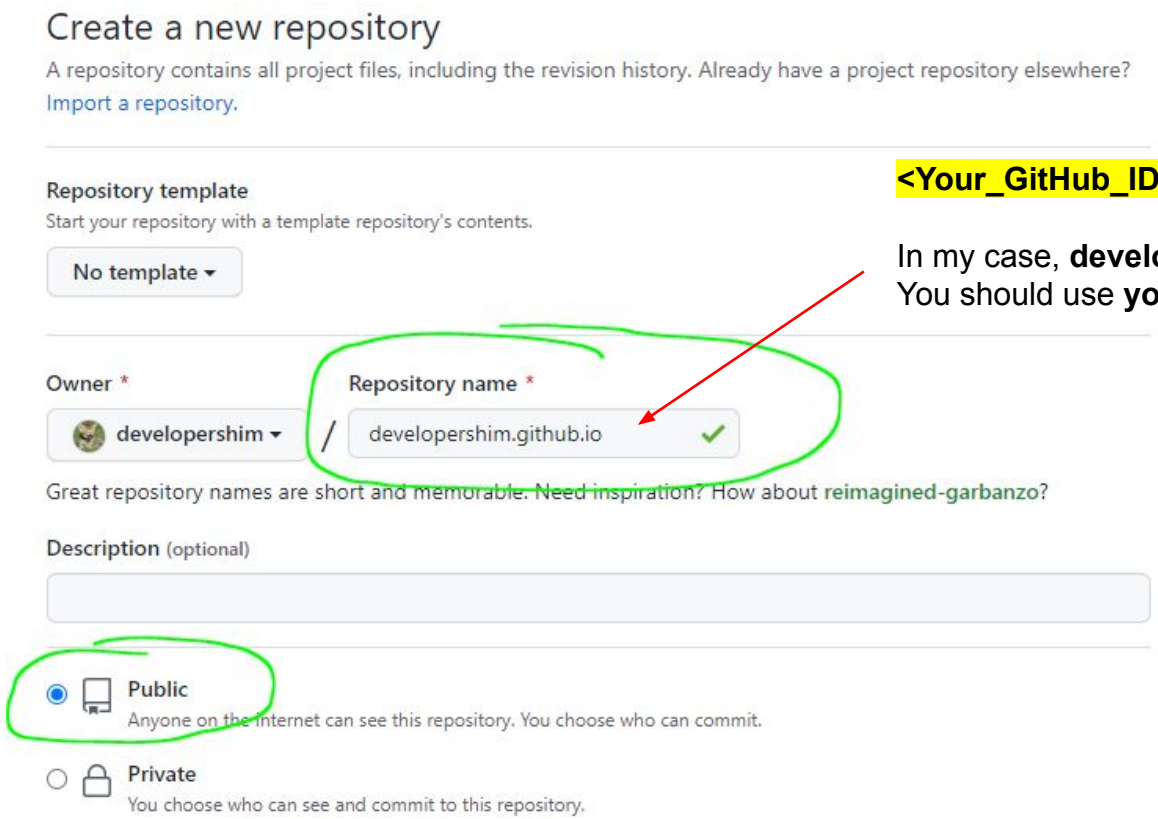
Create a new public repository

- In **web browser**, go to **github.com → Sign In**



- Click **New**

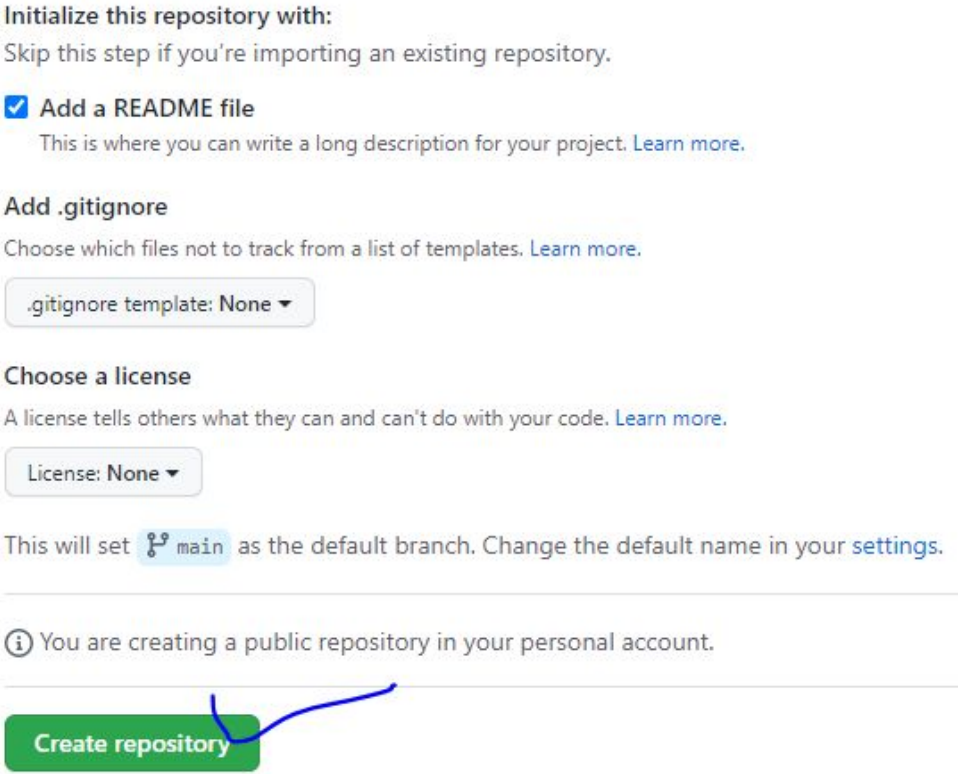
Create a new public repository



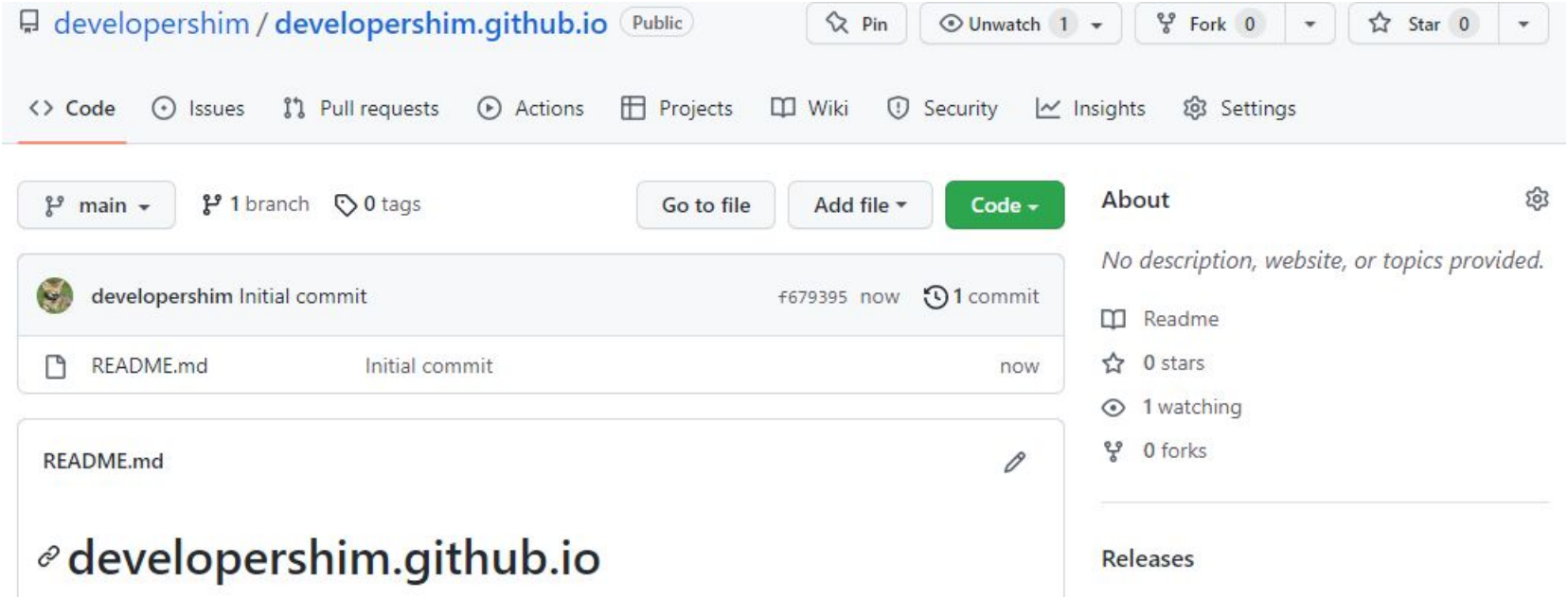
<Your_GitHub_ID>.github.io

In my case, **developershim** is my **GitHub ID**.
You should use **your own GitHub ID**.

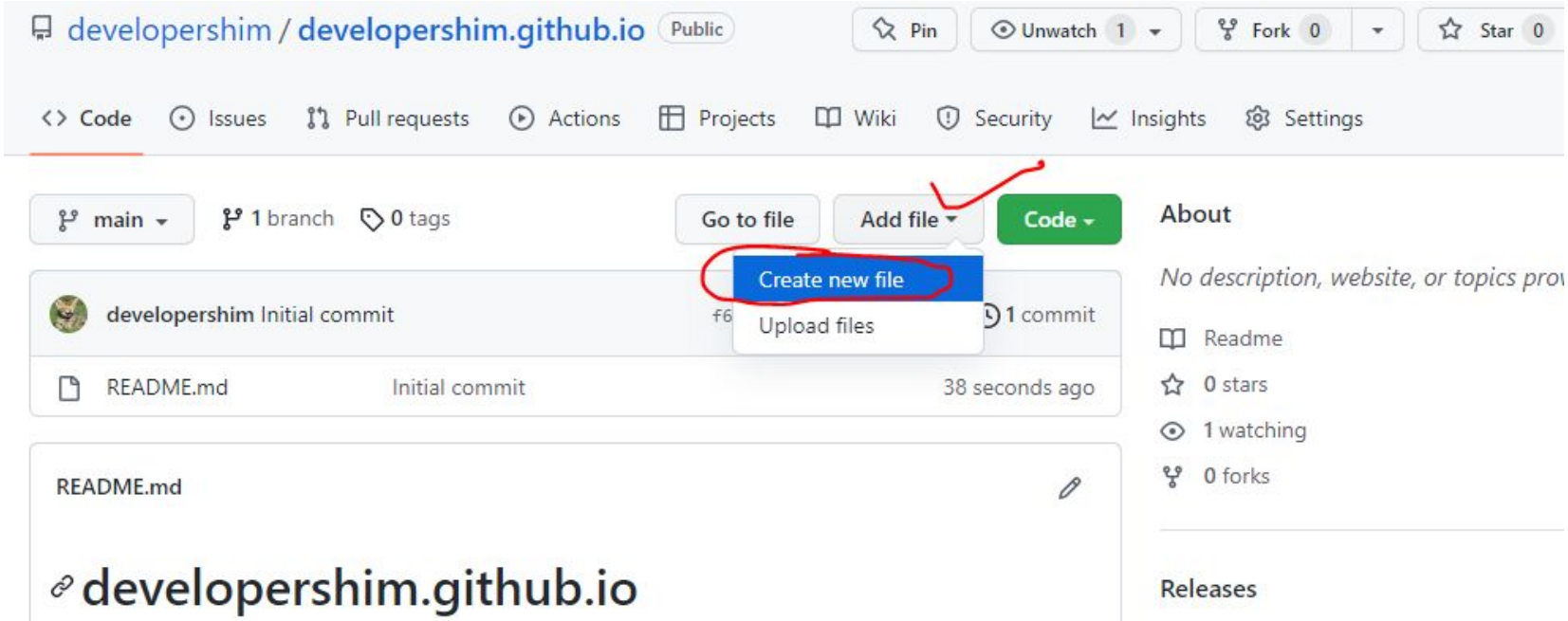
Create a new public repository



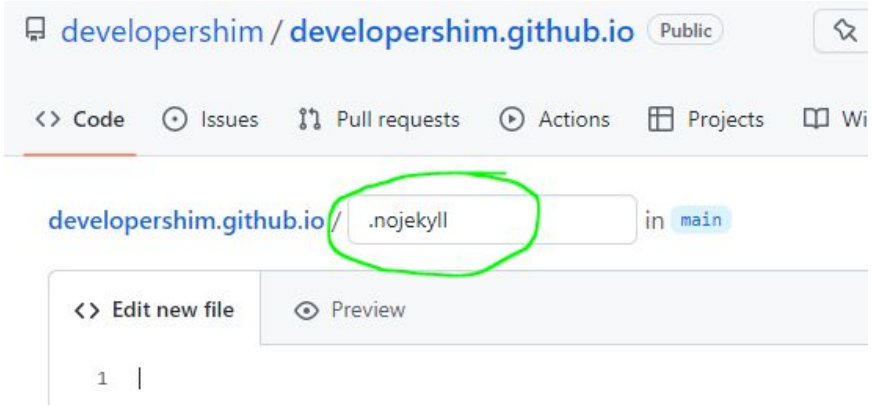
New repository is ready



Add .nojekyll



Add .nojekyll



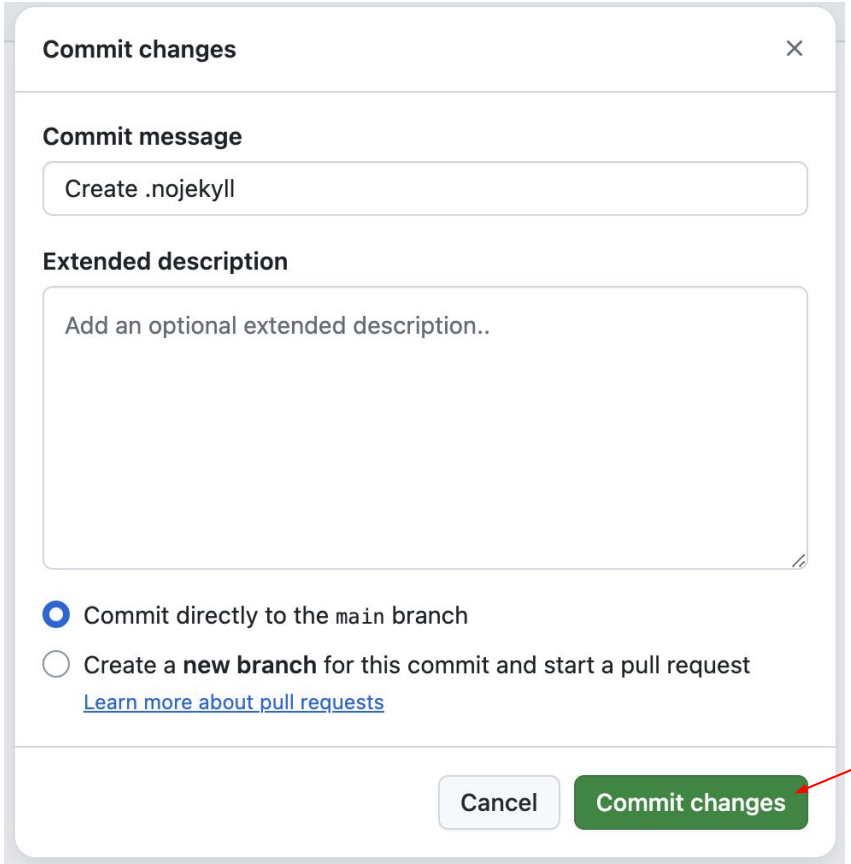
Click

Commit changes...

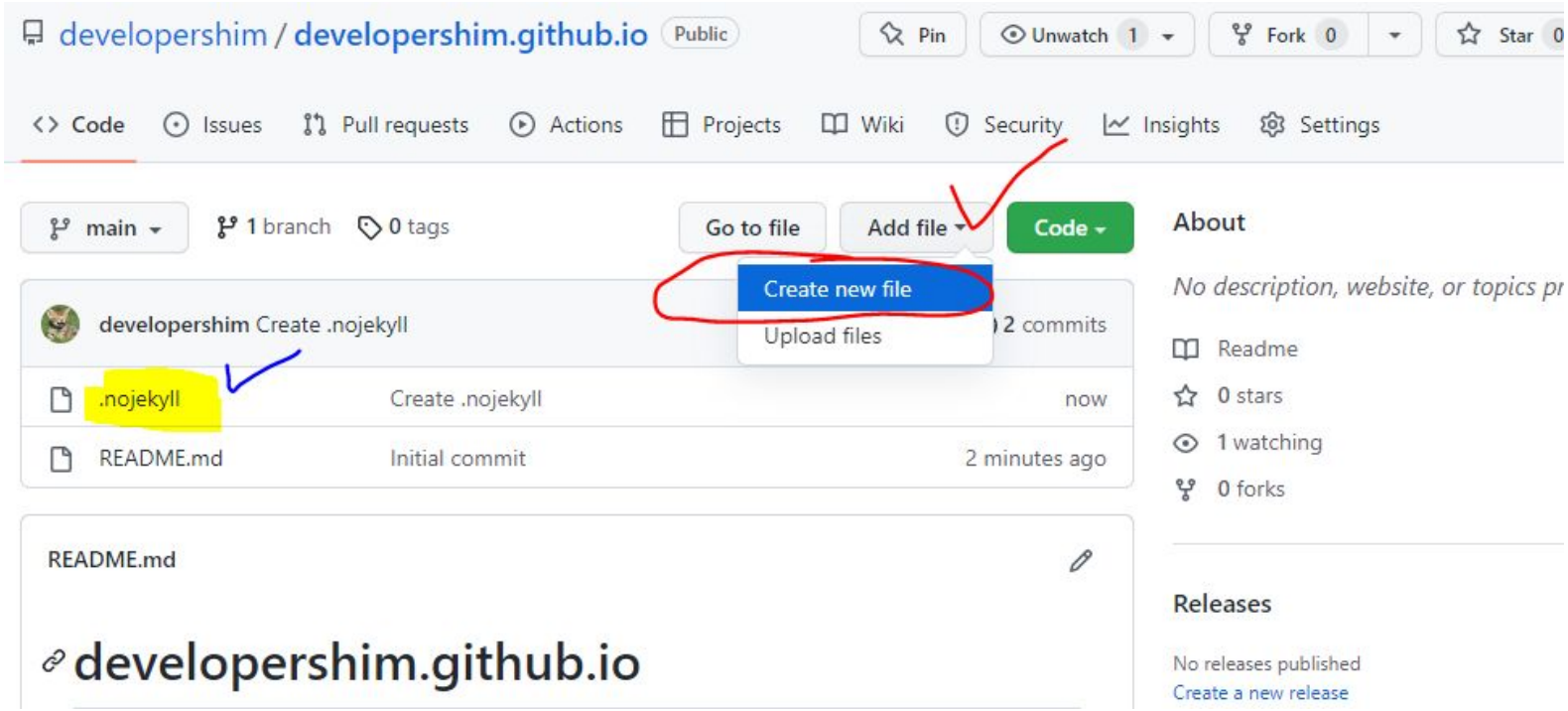
.nojekyll

So that we can host static HTML pages and images…
(instead of using Jekyll's markdowns)

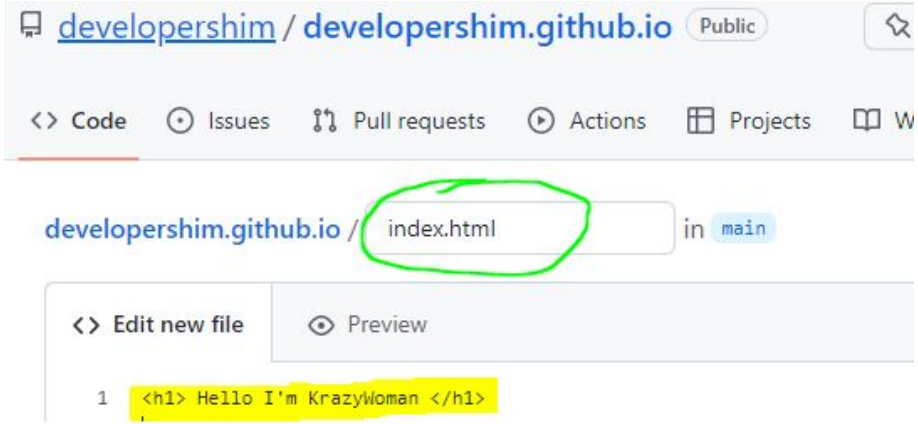
Add .nojekyll



Add index.html



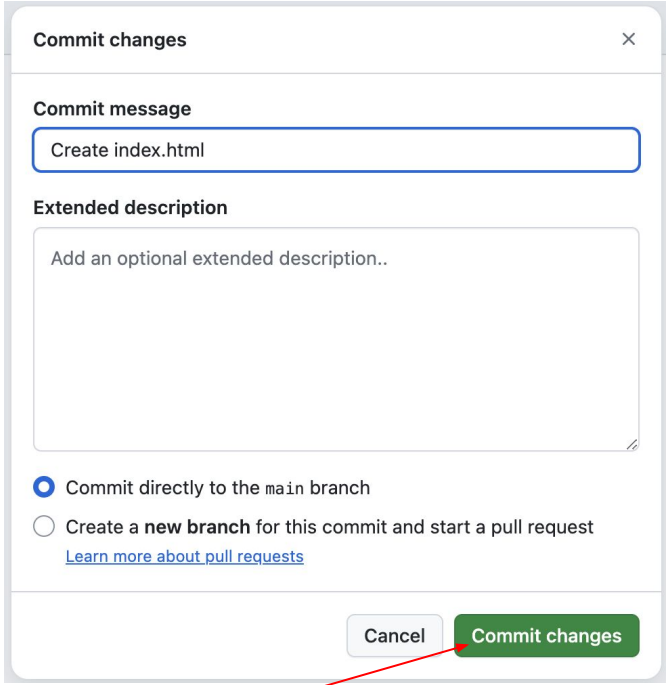
Add index.html



Add **<h1>** heading with your own name

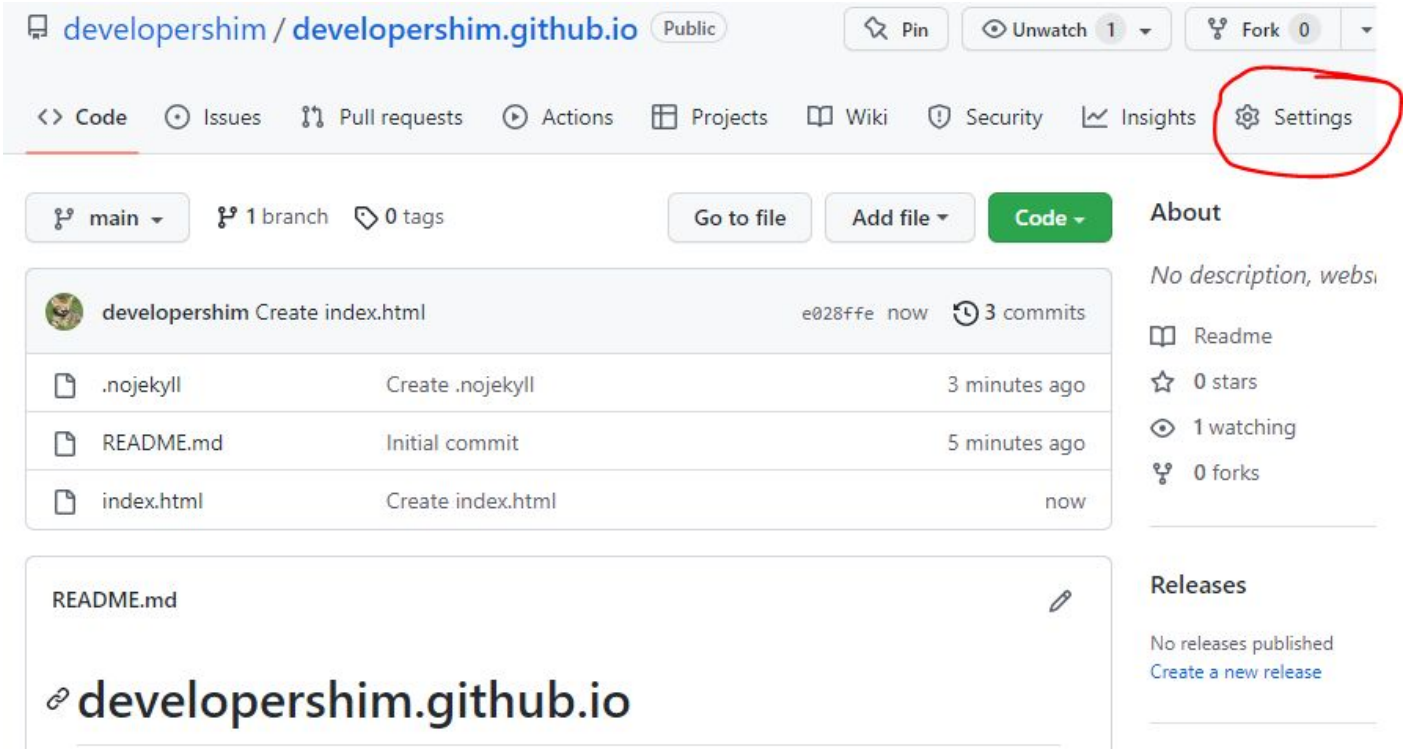
Click

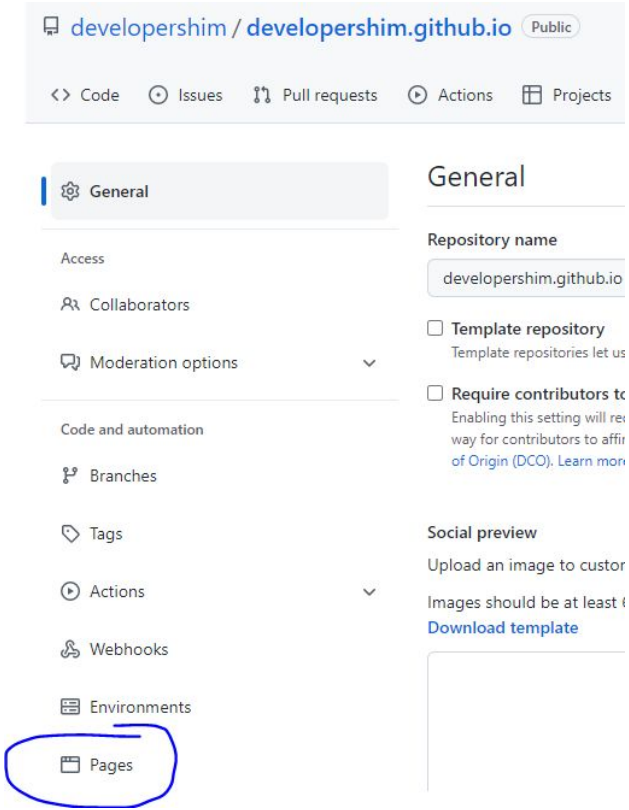
Commit changes...

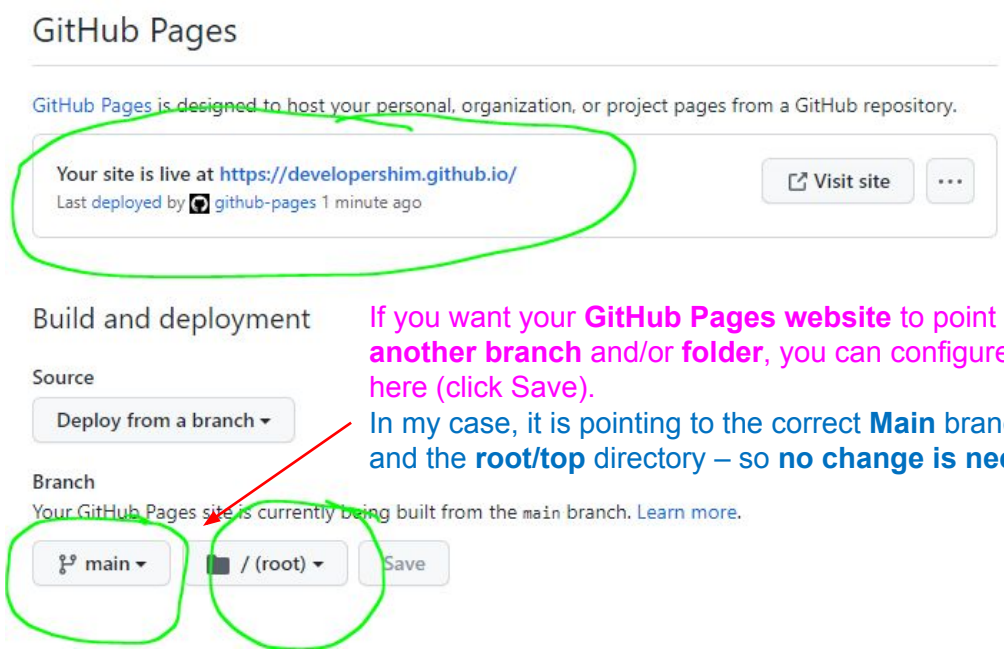


Click

Settings → Enable GitHub Pages







If you want your **GitHub Pages website** to point to **another branch** and/or **folder**, you can configure that here (click Save).
In my case, it is pointing to the correct **Main** branch and the **root/top** directory – so **no change is needed**.

My **GitHub Pages website** is **ready for viewing**:
https://developershim.github.io/

Check yours!

Official GitHub Pages tutorial webpage → HERE

Things to Finish *Before* Week 2 Lesson (1)

Use **GitHub Desktop** to **push** your **new web page** (let's say it's called **fanpage.html**) such that the following URL will display your celebrity fan webpage:

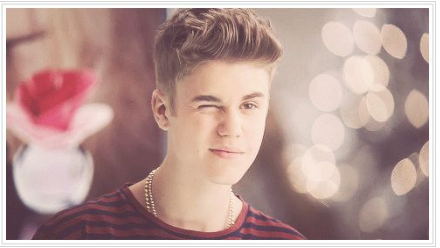
`https://<YOUR_OWN_GITHUB_ID>.github.io/fanpage.html`

When the webpage, please make sure to push all referenced local files such as image files.

Once done with your **GitHub Pages site**, please add your fanpage **URL** in this spreadsheet:
https://docs.google.com/spreadsheets/d/1-REVXXy_2ScXMjH56tTgYvxCZXxLBVZqJ7BvhigEnnM/edit?usp=sharing

Please check out this GitHub tutorial on **GitHub Desktop**
https://www.youtube.com/watch?v=vXcd3Fbz0Xl

Things to Finish ***Before*** Week 2 Lesson (2)



*Complete **Week 2 "Before Class"***

- Check in eLearn → Content → Week 2 → **Before Class**
  - Watch the video & read the slides
  - Complete **Week 2: Before-Class Quiz (CSS – Basics)**

Questions? Need Help?

Join us in Slack
@
https://is216-oppa.slack.com

Thank You!