

# CS304

# Software Engineering

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Slides adapted from cs409

# Recap: Git commands

command	description
<code>git clone <i>url</i> [<i>dir</i>]</code>	copy a git repository so you can add to it
<code>git add <i>files</i></code>	adds file contents to the staging area
<code>git commit</code>	records a snapshot of the staging area
<code>git status</code>	view the status of your files in the working directory and staging area
<code>git diff</code>	shows diff of what is staged and what is modified but unstaged
<code>git help [<i>command</i>]</code>	get help info about a particular command
<code>git pull</code>	fetch from a remote repo and try to merge into the current branch
<code>git push</code>	push your new branches and data to a remote repository
others: <code>init</code> , <code>reset</code> , <code>branch</code> , <code>checkout</code> , <code>merge</code> , <code>log</code> , <code>tag</code>	

# Software required

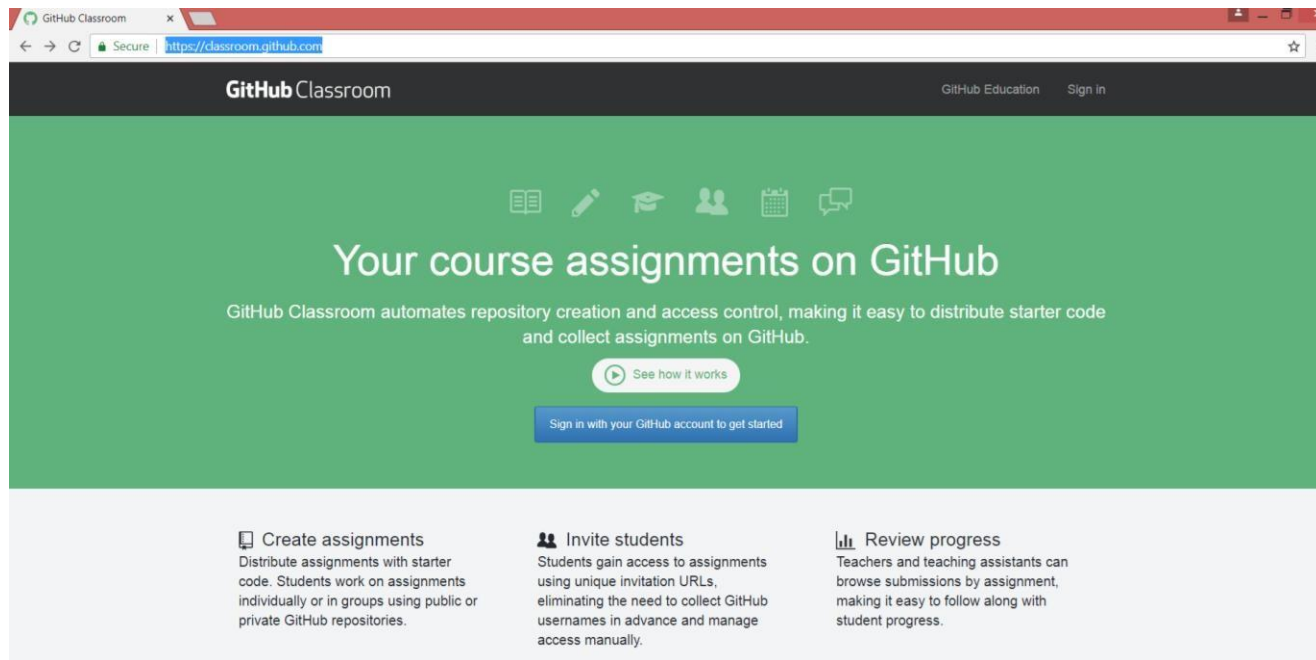
- Install Git:
  - Use **Git** for your preferred Operating System/ IDE
    - Git command in Ubuntu: `sudo apt-get install git-core`
    - Git for windows: <https://git-scm.com/download/win>
    - EGit for Eclipse: <https://www.eclipse.org/egit/>
  - \*I prefer using Git commands on Ubuntu
- Install Your favourite IDE:
  - IntelliJ IDEA: <https://www.jetbrains.com/idea/>
  - Eclipse: <https://www.eclipse.org/downloads/>
  - Android Studio (Project):  
<https://developer.android.com/studio/>
  - Netbeans: <https://netbeans.org/>

# Collaboration through GitHub Classroom

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# Main Page

- <https://classroom.github.com/>



# Our organization: cs304-2022-classroom-1

## cs304-2022-classroom-1

cs304-2022



Assignments 3



Students 241



TAs and Admins 12



Settings

### Assignments

New assignment

We value your feedback! Please take a few minutes to complete our [survey](#).



main-project-repo

Starter Course

Group assignment for Project

Invite link



mp0

Starter Course

Individual assignment

Invite link



project-proposal

Starter Course

Group assignment for Project

Invite link



# List of Assignments: More coming soon...

## cs304-2022-classroom-1

cs304-2022



Assignments 3



Students 241



TAs and Admins 12



Settings

### Assignments

New assignment

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main-project-repo

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project-proposal

Starter Course

Group assignment for Project

Invite link



# First Assignment: mp0



## Step 1:

### Accept Invitation

- Go to the invitation links:
- <https://classroom.github.com/a/N0LWXf2s>



## Step 2: Sign in to your existing account/ Create New Account

Sign in to **GitHub**  
to continue to **GitHub Classroom**

Username or email address

Password [Forgot password?](#)

**Sign in**

New to GitHub? [Create an account.](#)

# Select Your Student ID (Do not skip)

sustech-se2019-classroom-1

sustech-se2019

Manage classroom

mp0  
Individual assignment

Download Repositories ▾

Assignment settings

Give this to your students

<https://classroom.github.com/a/rZizQRvj>

Copy invitation link

All students Unlinked GitHub accounts

11510923  
Not joined classroom

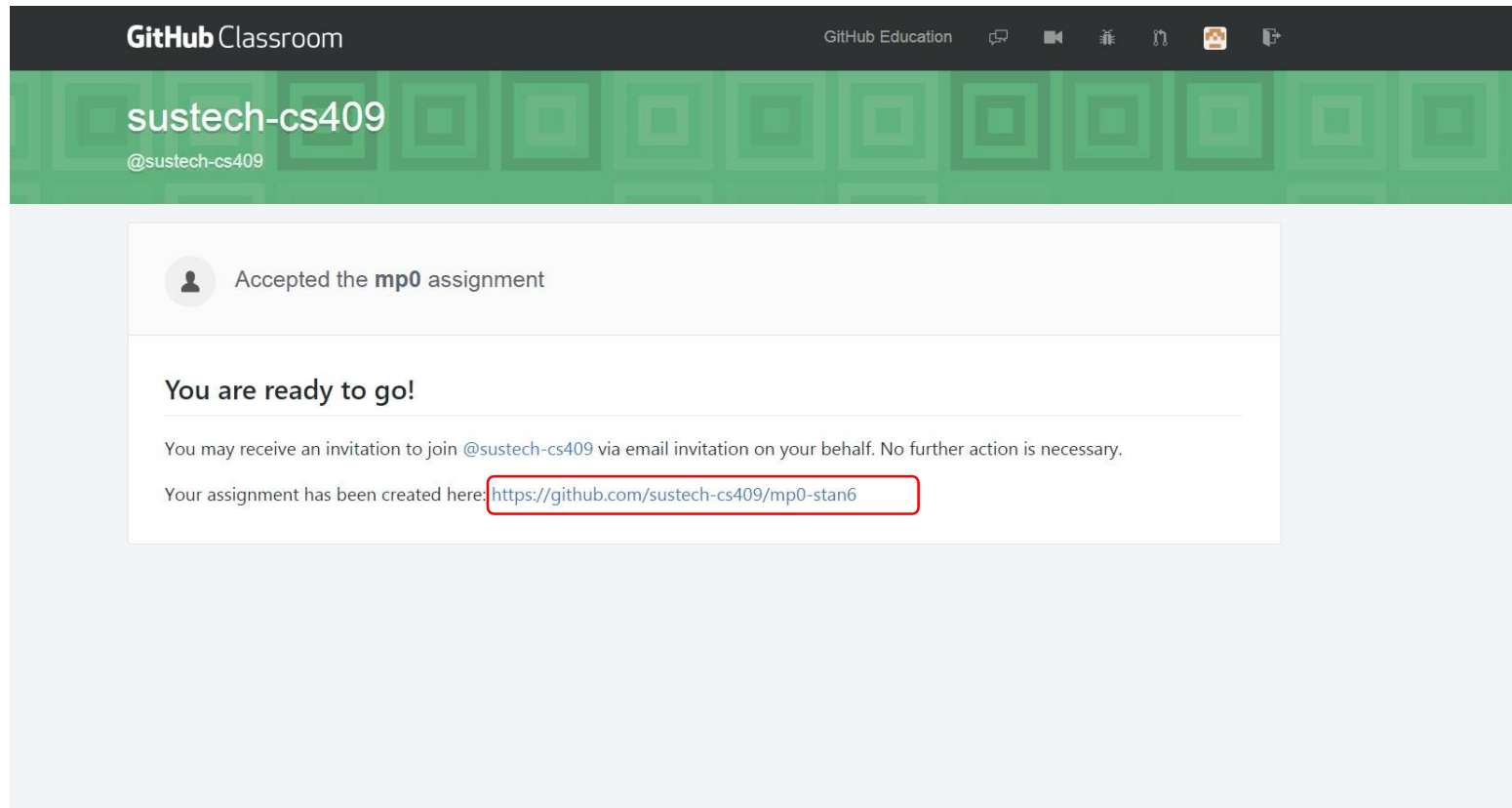
11510317  
Not joined classroom

11612602  
Not joined classroom

Please let me know if you have problem selecting your ID in this step:

- Select wrong id
- Your id doesn't exist

# Repository created!



The screenshot displays the GitHub Classroom interface. At the top, a dark header bar contains the 'GitHub Classroom' logo on the left and 'GitHub Education' with several icons on the right. Below this is a green banner with a repeating square pattern, featuring the text 'sustech-cs409' and '@sustech-cs409'. The main content area is a light gray box. It begins with a user icon and the text 'Accepted the mp0 assignment'. This is followed by a section titled 'You are ready to go!' with a horizontal line underneath. Below the title, two lines of text are present: 'You may receive an invitation to join @sustech-cs409 via email invitation on your behalf. No further action is necessary.' and 'Your assignment has been created here:'. The URL 'https://github.com/sustech-cs409/mp0-stan6' is highlighted with a red rectangular border.

GitHub Classroom

GitHub Education

sustech-cs409

@sustech-cs409

Accepted the mp0 assignment

**You are ready to go!**

You may receive an invitation to join @sustech-cs409 via email invitation on your behalf. No further action is necessary.

Your assignment has been created here: <https://github.com/sustech-cs409/mp0-stan6>

## Step 3:

# Get Your Repository in Your local machine

- Use **Git** from what you learned in previous slides
- Start working on mp0
  - Note: mp0 folder does not contain any starter code!  
Refer to CS304-mp0.pdf for instruction.

# GitHub & Git Basics

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Writing README.md

# Writing and Formatting README.md

- Styling headings:

```
# The largest heading  
## The second largest heading  
##### The smallest heading
```

**The largest heading**

**The second largest heading**

**The smallest heading**

[Resource: https://help.github.com/articles/basic-writing-and-formatting-syntax/](https://help.github.com/articles/basic-writing-and-formatting-syntax/)

# Writing and Formatting README.md

- Styling text:

Style	Syntax	Keyboard shortcut	Example	Output
Bold	<code>** **</code> or <code>__ __</code>	command/control + b	<code>**This is bold text**</code>	<b>This is bold text</b>
Italic	<code>* *</code> or <code>_ _</code>	command/control + i	<code>*This text is italicized*</code>	<i>This text is italicized</i>
Strikethrough	<code>~~ ~~</code>		<code>~~This was mistaken text~~</code>	<del>This was mistaken text</del>
Bold and italic	<code>** **</code> and <code>__ __</code>		<code>**This text is extremely important**</code>	<b><i>This text is extremely important</i></b>

# Writing and Formatting README.md

- Styling lists:

```
- George Washington  
- John Adams  
- Thomas Jefferson
```

- George Washington
- John Adams
- Thomas Jefferson

To order your list, precede each line with a number.

```
1. James Madison  
2. James Monroe  
3. John Quincy Adams
```

1. James Madison
2. James Monroe
3. John Quincy Adams



# What if you have some big files that you do not want to commit?

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Use GitIgnore

# Ignoring files

- Gitignore file is a file that specifying the files or folders that we want to ignore.
- Several ways to specifying Gitignore files:
  1. Use specific filename. For example, if we want to ignore a file called `readme.txt`, then we just need to write `readme.txt` in the `.gitignore` file.
  2. Use the name of the extension. For example, if we want to ignore all `.txt` files, then write `*.txt`
  3. Use the name of the folder. For example, if we want to ignore folder named `test`. Then we can just write `test/` in the file.
- Save the file as `.gitignore`
  - **The name of the file should be `.gitignore`**

# Extra “homework”

- Do you have your own website?
- Do you know that you can build your own personal website using GitHub pages?
  - Refer to: <https://pages.github.com/>

\*Useful for future career:

- Job interviews
  - Give a link to your CV/Resume that could be updated
- Research profile
  - Upload your new research works

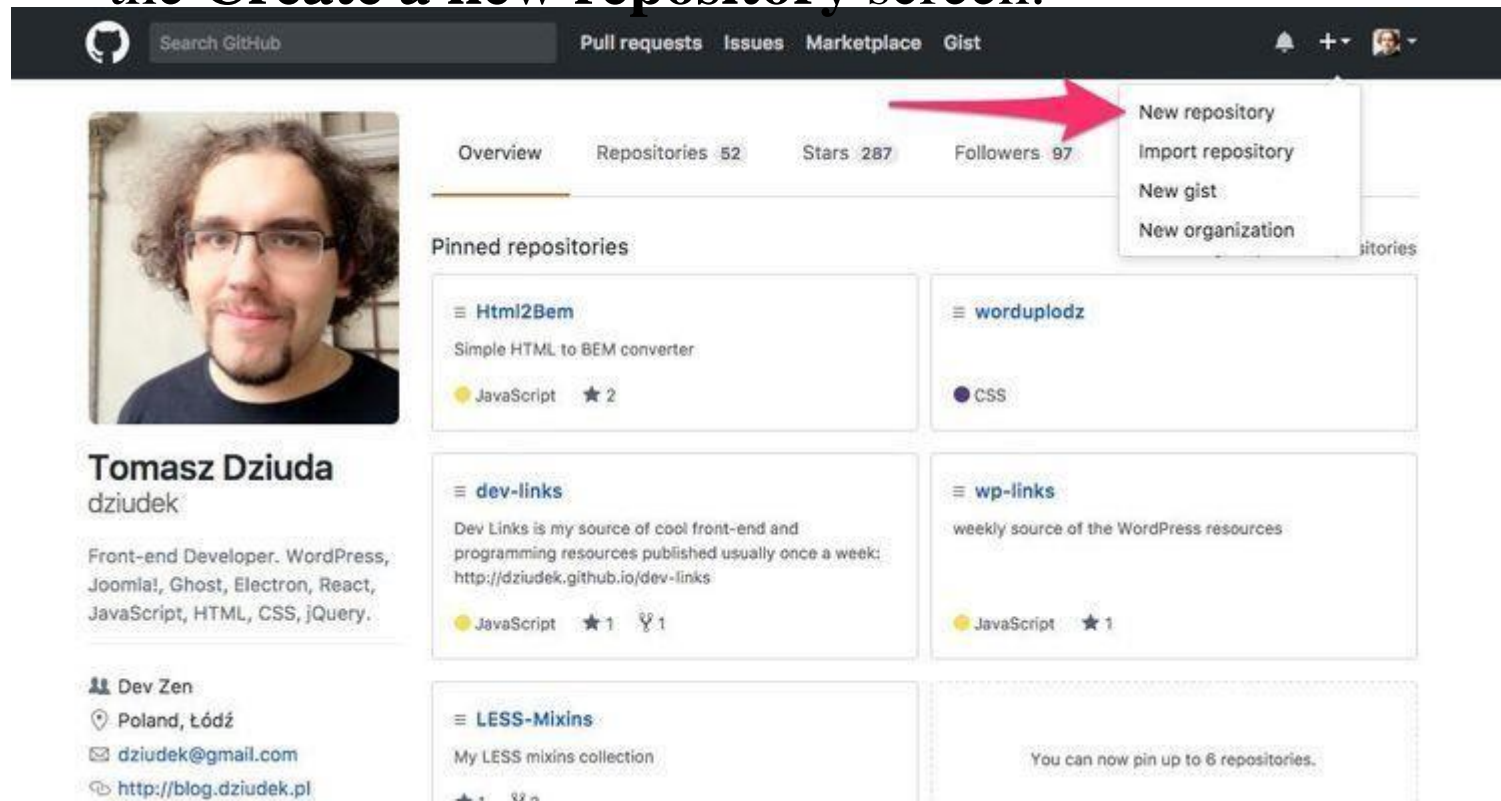
# Create Webpage with GitHub Pages

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Slides from <https://getpublii.com/docs/host-static-website-github-pages.html> and <http://jmcglone.com/guides/github-pages/>

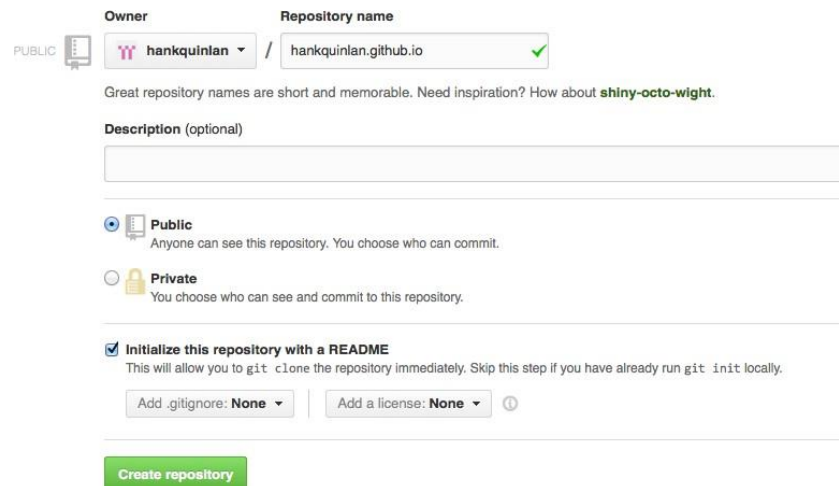
# Step 1: Create New Repository

- Log-in to Github, then click the plus icon in the topbar to open a submenu;
- click on the **New repository** option to be taken to the **Create a new repository** screen.



# Step 2: Select Repository name

- Name your repository username.github.io, replacing username with your GitHub username.
- Leave the repository as Public (Github Pages are always public, even when the repository hosting it is made private).
- Click the green Create repository button at the bottom of the screen.



The screenshot shows the GitHub 'Create new repository' form. At the top, the 'Owner' is set to 'hankquinlan' and the 'Repository name' is 'hankquinlan.github.io', which is marked as valid with a green checkmark. Below this, a note suggests repository names should be short and memorable, with an example 'shiny-octo-wight'. The 'Description (optional)' field is empty. Under the 'Visibility' section, the 'Public' option is selected, indicating that anyone can see the repository. The 'Private' option is also visible. The 'Initialize this repository with a README' checkbox is checked, with a note that this will allow for an immediate git clone. At the bottom, there are dropdown menus for 'Add .gitignore: None' and 'Add a license: None', followed by a green 'Create repository' button.

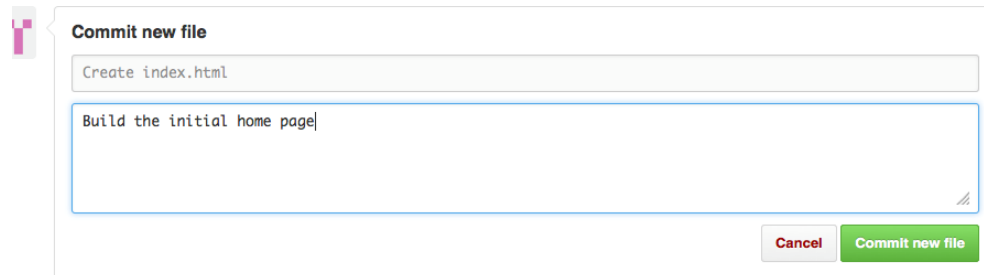
## Step 3: Create index.html

- Create an index.html page by clicking the plus icon next to your repository name and typing the file name directly in the input box that appears.

The screenshot shows the GitHub repository creation page for `hankquinlan.github.io`. At the top, there are two input fields: "Description" with the placeholder "Short description of this repository" and "Website" with the placeholder "Website for this repository (optional)". Below these fields, a summary bar displays "1 commit", "1 branch", and "0 releases". The repository name `hankquinlan.github.io` is shown with a dropdown menu set to "branch: master". To the right of the repository name is a button that says "Create a new file here". Below the repository name, there is a section titled "Initial commit" with a light blue background.

## Step 4: Commit index.html

- Create an index.html page by clicking the plus icon next to your repository name and typing the file name directly in the input box that appears.

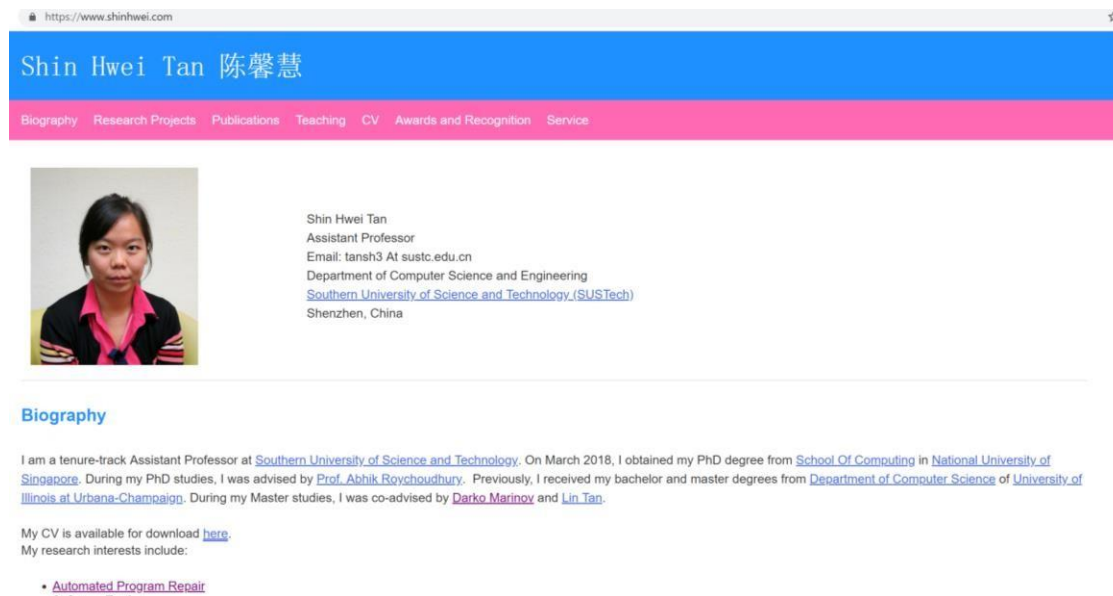


The screenshot shows a 'Commit new file' dialog box. It has a title bar with a plus icon and the text 'Commit new file'. Below the title bar is a text input field containing 'Create index.html'. Below that is a larger text area containing 'Build the initial home page'. At the bottom right of the dialog are two buttons: 'Cancel' and 'Commit new file'.



# First GitHub Pages!

- Congrats! You just built your first GitHub Pages site. Usually the first time your GitHub Pages site is created it takes 5-10 minutes to go live.
- View it at <http://username.github.io>.



# Assignments Deadline

- MP0 due on 7 March, 2022
- Project Proposal due on 11 March, 2022
  - Find your groupmate this week!
  - Start compiling and running tests for your project