**WeCamp for Quality Engineers**

Welcome to NAB WeCamp QE Workspace. Our journey begins here. And you are not alone!

Together we may find people who share the same passion for technology, or even among other things!

**Wifi**: VSDC-Guest VSDC-M

**Password**: Welcome@NAB Vsdc@Mobile

Open your browser and enter: NBXCZ-PLYBG

**Zoom**

Zoom ID:

Passcode:

**Group Contact Information**

| **Group** | **Full Name** | **Phone number** | **Email** | **Facebook & LinkedIn** | **Personal Space** | **GitHub link + Independent Learning Project** | **Welcome Note** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Instructor | Khang Nghiem | 0969150591 | [khangnghiem@gmail.com](mailto:khangnghiem@gmail.com) | * [www.facebook.com/KhangNghiemM](http://www.facebook.com/KhangNghiemM) * [www.linkedin.com/in/khangnghiem](http://www.linkedin.com/in/khangnghiem) |  | https://github.com/khangnghiem/wecamp | * I’ve had prior teaching experience so I hope I could put it to good use. * I join WeCamp to be an instructor so I can contribute back to NAB and our wonderful community * Things I love: swimming, working out and enjoy new food |
| Anh Nguyễn | 0974712303 | nnthanhthi1997@gmail.com | I don’t have any |  |  |  |
| 1 | Nguyễn Thị Thuỳ Trang | 0359925931 | trangntt19406@st.uel.edu.vn | <https://www.facebook.com/trang.linda.3939/>  [LinkedIn](https://www.linkedin.com/in/trang-nguy%C3%AA%CC%83n-thi%CC%A3-thuy%CC%80-3a584a242/) | [gg docs](https://docs.google.com/document/d/1jVFftkNo0tWL-i1sT3slDnyrKhXvz0ZltTezZWjQ8EU/edit?usp=sharing)  [Thuy Trang\_Test plan\_Test case](https://docs.google.com/spreadsheets/d/1WMHErgPJope_s3pkX2uDrkWKMdjCQA3DlyZkFTSpQaA/edit?usp=sharing) | <https://github.com/Trangote/>  Tech stack: ReactJs, NodeJS, MongoDB, Express |  |
|  | Nguyễn Lê Mỹ Hạnh | 0389817396 | nlmhanh110@gmail.com | <https://www.facebook.com/hanhnlm>  <https://www.linkedin.com/in/hanh-nguyen/> | [Hanh Nguyen - Wecamp](https://docs.google.com/spreadsheets/d/1CB81USsjxpeYoQ5YGSzidtFF-ekIjZcufRUm0AC9uVs/edit?usp=sharing)  [Hanh Nguyen - Wecamp](https://docs.google.com/document/d/1WBxZVPcLCWcscPpZOaw0ZOvuuPj92oFCTslyY1g3XVI/edit?usp=sharing)  [My Hanh -Test Plan.docx](https://docs.google.com/document/d/1qP_N5rKhAnn5wUfbs4_-yTmtaqE7fPzU/edit?usp=sharing&ouid=108814297462523226172&rtpof=true&sd=true)[My Hanh - Test Case.xlsx](https://docs.google.com/spreadsheets/d/13tEXp5XzQpQBCPFE1-xVQd2CpMQpKpCg/edit?usp=sharing&ouid=108814297462523226172&rtpof=true&sd=true) | <https://github.com/nlmhanh110>  Tech stack: MongoDB, Express, React, NodeJS | * I join WeCamp to get more knowledge in QE and to explore my self more. * Hobbies: books, movies, music, animes, mangas - anything that I find interesting, beautiful :vv |
| 2 | Đặng Phương Anh | 0973997617 | dangphuonganh200136@gmail.comcom | <https://www.linkedin.com/in/dg-panh/> | [Panh](https://docs.google.com/document/d/1ZAVY6dCFjWgViNOe3UmsIgZj9nyAjQJHuegJXuanRwk/edit?usp=sharing) | <https://github.com/dg-panh>  Tech stack: MongoDB, ReactJS, NodeJS, Express |  |
|  | Nguyễn Phan Phương Anh | 0901757312  0329467722 | nppanh0212@gmail,comcom | [linkedin.com/in/phương-anh-nguyễn-23aa721b8](https://www.linkedin.com/in/ph%C6%B0%C6%A1ng-anh-nguy%E1%BB%85n-23aa721b8) | [Phuong Anh](https://docs.google.com/document/d/1GL2IeqRGV0JYoGWcmHZq7RYxZU_wToR1EuluM57gvOo/edit?usp=sharing) | <https://github.com/phuonganh0212>  Tech stack: Reactjs, Nestjs, MongoDB | Switch from HR field,  Love to play games and |
| 3 | Nguyễn Hoài Thương | 0385943273 | thuonghoainguyen2101@gmail.com | [LinkedIn](https://www.linkedin.com/in/thuonghoainguyen2101/)  [Facebook](https://www.facebook.com/gruviamon) | [W2-Web-20220627](https://docs.google.com/document/u/2/d/1YnqREcaXmHbMlmWBF7pbU7Swocyc3qVCwgFP8ol1WAI/edit) | [(github.com)](https://github.com/thuonghoainguyen2101) |  |
|  | Phạm Hồng Minh | 0886544034 | minhkhaiv@gmail.com | <https://www.facebook.com/profile.php?id=100046697079927>  <https://www.linkedin.com/in/min0412/> | [MinhPham](https://docs.google.com/document/d/14V7I5Fss-Kb6Ilg4YWq6sFWw7cB-98O5CgRD8rHGDI4/edit?usp=sharing) | <https://github.com/mingminerva> |  |
| 4 | Tran Man Nhi | 076 454 9838 | tr.mnhi182@gmail.com |  | [WeCamp\_Week2\_StaticTesting](https://docs.google.com/document/d/1iiwZdjee-FGvefJWT3TM-jxCTFzyN8IfUHNi1vjBbPE/edit#) | <https://github.com/trmnhi182>  Tech stack: React, Nodejs MongoDB | Hobbies: Dancing, literary analysis |
|  | Huỳnh Phương Thanh | 0375 155 229 | phuongthanh.tnw@gmail.com |  | [[Thanh] Static testing](https://docs.google.com/document/d/1E35iGUs1cHuxaWCzKNWGRVANNs8Uvj9oyM4zRoPMhTs/edit?usp=sharing)  [Test plan - wecamp final](https://docs.google.com/document/d/1WoAv8Pdv1UyLdfFEiUpOD03Aa5Pkzbl9XHNJ3LJfKTw/edit?usp=sharing)  [Cars database project - Test case](https://docs.google.com/spreadsheets/d/1hc0UVH-TYSc3lq6kpyrtOPVfoP1q8A02UjQEaBv7Lew/edit?usp=sharing) | <https://github.com/Phuong-Thanh>  Techstack  FE: reactjs  BE: nodejs  DB: mongodb |  |

**Syllabus**

Jun 20th - Aug 19th, 2022

| **Week** | **Description** | **Content** | **Activities** | **Acceptance Criteria** | **Reading Materials BEFORE class** | **Homework** | **Person in charge** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | Introduction to Testing | * Introduction to WeCamp Quality Engineering | * Break the ice * Independent Learning Project | * Get to know each other * Can distinguish the difference between Tester and Quality Engineer * Start looking for an independent learning project | * O’Reilly playlist:   <https://learning.oreilly.com/playlists/37fe573a-0850-41d0-9efb-1ea8dd7c894f> | * Set up VSCode environments, extensions, etc. * Set up your Google Docs Account * Software Testing Chapter 1: Fundamentals of testing <https://learning.oreilly.com/library/view/software-testing/9781780174921/08_chapter01.xhtml#h12> | Khang |
| * Role of Testing in SDLC * Test Levels * Test Types | * Testing in each stage of SDLC * Quality Engineering Mindset | * Can understand the overall process of testing across all stages of SDLC * Understand the different levels and types of testing | * Software Testing Foundation Chapter 2: Basics   <https://learning.oreilly.com/library/view/software-testing-foundations/9781681988559/Text/chapter02.xhtml> | * Software Testing Foundation Chapter 3: Testing through SDLC   <https://learning.oreilly.com/library/view/software-testing-foundations/9781681988559/Text/chapter03.xhtml>   * Write a sum(a,b,c) function and test it. | Khang |
| * Supplement: Basic Programming | * Setup IDE * Learn primitive types * Declare variables * Write simple functions | * Can use an IDE * Understand String, Number and Boolean types * Can set up coding environment and runtime * Can code a simple function | * Review basic programming: [Basics of Computer Programming For Beginners | Coding Tutorial (softwaretestinghelp.com)](https://www.softwaretestinghelp.com/basics-of-computer-programming/) | * Understand how the web works. * HTML, CSS basic programming * DOM basic * Basic of JavaScript (variables, conditional, function) * Basic of git, GitHub (create a repository, add remote server, pull & push code. etc.) | Quỳnh Anh |
| 2 | Testing Management | * Static Testing * Test Plan | * Workshop: Static Testing * Workshop: Test Plan | * Can conduct Static Testing and requirement analysis * Can produce a Test Plan | * Software Testing Foundation Chapter 6: Test Management   <https://learning.oreilly.com/library/view/software-testing-foundations/9781681988559/Text/chapter06.xhtml> |  | Khang |
| * Test Scenarios * Test Cases | * Workshop: Write a Test Scenario and Test Cases | * Can produce a list of happy test cases for a given Ul * Can produce a list of negative test cases for a given Ul | * Test plan: <https://www.browserstack.com/guide/test-planning> * Test case: <https://www.guru99.com/test-case.html> |  | Khang |
| * Fundamental of DOM and Cypress (included npm, nodejs) * Do some fun exploration test with Selenium IDE | * Introduction of DOM * Introduction of nodejs, npm and Cypress * Write some fun UI automation test | * Understand fundamental of DOM * Can produce an E2E UI test with Cypress * Understand how a nodejs project works | * Cypress |  | Quỳnh Anh |
| 3 | Test  Fundamentals  (July 4th - July 8th) | * Fundamental Architecture   + Frontend   + Backend * Header, Body * Status Codes | * Workshop: Run **React** Frontend & **NodeJS** Express Backend * Intro to Postman | * Can run localhost services * Can write simple tests for API endpoints * Understand 2xx, 4xx, 5xx status codes | * MERN stack: [What Is The MERN Stack? Introduction & Examples | MongoDB](https://www.mongodb.com/mern-stack) | * Create a MongoDB account | Khang |
| * Fundamental Architecture (2)   + Frontend   + Backend   + Database | * Workshop: Manual Exploratory Testing * Workshop: Run **React** Frontend & **NodeJS** Express Backend & **MongoDB** Database | * Understand exploratory and manual testing * Can connect your app to MongoDB | * Fullstack Testing Chapter 2: Manual Exploratory Testing <https://learning.oreilly.com/library/view/full-stack-testing/9781098108120/ch02.html#understand_the_application> | * Create a collection * Integrate your app to MongoDB | Khang |
| * Run an exist fullstack repository (notes webapp) and write some exploration tests in Selenium extension | * Workshop: Run notes webapp, see how it works and do some exploration tests by manual and Selenium extension | * Can run a fullstack webapp * Can understand how the app works * Can do some exploration tests |  |  | Quỳnh Anh |
| 4 | API Testing  (July 11th - July 15th) | * Integration Test | * Workshop: Integration Test | * Can write API integration tests | * Software Testing Foundation Chapter 5: Dynamic Testing   <https://learning.oreilly.com/library/view/software-testing-foundations/9781681988559/Text/chapter05.xhtml> (continued) |  | Khang |
| * Blackbox Testing: Integration Test | * Workshop: Blackbox Testing | * Can write integration tests |  |  | Khang |
| * ~~Introduction of GraphQL and RESTful~~ | * ~~Workshop: RESTful vs GraphQL via notes app~~ | * ~~Can perform GET & POST Requests with RESTful and GraphQL~~ |  |  | Quỳnh Anh |
| 5 | Test Execution:  Test Scripting  (July 18th - July 22th) | * Simple UI tests with Cypress | * Workshop: Cypress | * Can run simple tests in Cypress |  |  | Mi |
| * HTTP Request, HTTP Response * Postman | * Workshop: Postman | * Can create a Postman collection * Can create Postman environment variables * Can perform GET & POST Requests with Headers and JSON Body | * Postman: <https://youtu.be/VywxIQ2ZXw4> * Request Methods: [HTTP request methods - HTTP | MDN (mozilla.org)](https://developer.mozilla.org/en-US/docs/Web/HTTP/Methods) |  | Quỳnh Anh |
| * ~~Workshop: Write API test cases for notes app (both integration tests and contract test)~~ * ~~Introduction of OOP (?)~~ | * ~~Workshop: Integration Test (2)~~ | * ~~Can organize and refactor API automation scripts~~ |  | * ~~(Need to confirm week 3)~~ | ~~Quỳnh Anh (Company Trip Day)~~ |
| 6 | Manual & Automation:  User Interface (Ul)  (July 25th - July 29th) | * Manual Ul Testing (3) | * Workshop: Manual Ul Testing (3) | * Can identify the selectors | * Fullstack Testing Chapter 3: Automated Testing <https://learning.oreilly.com/library/view/full-stack-testing/9781098108120/ch03.html#automated_functional_testing_strategy> |  | Mi |
| * Act Action in Cypress | * Workshop: Act Action | * Can write a Cypress Act Action |  |  | Bea |
| * Workshop: Write multiple Cypress test cases for notes app | * Workshop: Cypress Ul Automation | * Can test a React Ul Component with Cypress |  |  | Quỳnh Anh |
| 7 | Manual & Automation:  End-to-end Test  (Aug 1st to Aug 5th) | * Manual End-to-end Testing | * Workshop: Manual E2E Testing | * Can manually test a finished app |  |  | Quỳnh Anh |
| * End-to-end Automation | * Workshop: Automation with Cypress | * Can write automation test scripts in Cypress |  |  | Mi |
| * Review | * Review | * Review |  |  | Bea |
| 8 | **Independent Learning Project Demo**  (Aug 8th - Aug 12th) | * Requirement Analysis * Test Plan * Test Design * Manual Testing * API Testing * Ul Testing * E2E Test | * A Comprehensive Test Plan * A detailed list Test Case * Manual Test * API Testing and automation * UI and E2E test automation scripts | * Instruction: Find a project / repo with a frontend, backend connected to a database. Test all of these components in scope defined in your test plan. * **PRESENT** your tested product for 30 min (+10min Q&A) solo or group of two * **MUST** achieve a minimum score of 70% |  | **BONUS**:   * +10% if you are **NOT** using **NodeJS** * +10% if you can test your app in **dev/production** environment (not localhost) * +20% if you are also the **DEVELOPER** of the app (or +10% for each frontend/backend that you create). Only applied for those without an IT background. | **Starcamp Recruiters** |
| **Monday** | 4:00pm - 4:40pm | [your name] |  |  |  |  |
| 4:40pm - 5:20pm | [your name] |  |  |  |  |
| 5:20pm - 6:00pm | [your name] |  |  |  |  |
| **Wednesday** | 4:00pm - 4:40pm | Mỹ Hạnh | [My Hanh -Test Plan.docx](https://docs.google.com/document/d/1qP_N5rKhAnn5wUfbs4_-yTmtaqE7fPzU/edit?usp=sharing&ouid=108814297462523226172&rtpof=true&sd=true)  [My Hanh - Test Case.xlsx](https://docs.google.com/spreadsheets/d/13tEXp5XzQpQBCPFE1-xVQd2CpMQpKpCg/edit?usp=sharing&ouid=108814297462523226172&rtpof=true&sd=true)  [Github](https://github.com/nlmhanh110/wecamp-capstone-project) |  |  |  |
| 4:40pm - 5:20pm | Phương Thanh | [Cars database project - Test case](https://docs.google.com/spreadsheets/d/1hc0UVH-TYSc3lq6kpyrtOPVfoP1q8A02UjQEaBv7Lew/edit?usp=sharing)  [Test plan - wecamp final](https://docs.google.com/document/d/1WoAv8Pdv1UyLdfFEiUpOD03Aa5Pkzbl9XHNJ3LJfKTw/edit?usp=sharing) |  |  |  |
| 5:20pm - 6:00pm | Thùy Trang |  |  |  |  |
| **Friday** | 4:00pm - 4:40pm | Dang Phuong Anh |  |  |  |  |
| 4:40pm - 5:20pm | Tran Man Nhi + Nguyen Hoai Thuong | <https://drive.google.com/drive/folders/1AjAmT2loa7-pydnr_oDUe5N4Y8HTsgl-?usp=sharing> |  |  |  |
| 5:20pm - 6:00pm | Hong Minh |  |  |  |  |
| 9 | Extra |  |  |  |  |  |  |

\*\*This Course Outline is subject to change without notice!

**Independent Learning Project**

Please include a link to your project repo and documents

| Mark | Content | Marking Criteria |
| --- | --- | --- |
|  | **Bonus:** Exploration Test | * Exploration test scripts with Selenium IDE |
| 5% | Test Plan | * Refer to this link for criteria: <https://www.wearedevelopers.com/magazine/how-to-create-a-test-plan-for-software-testing> |
| 10% | Test Case | * Test Cases in detail. |
|  | **Bonus:** Unit Test | * Unit Test achieves 40-50% coverage score (with Jest, JUnit, Chai, Mocha, etc.) |
| 30% | Integration Test (API Test) | * Manual API testing (Postman, curl, etc.) * API integration test scripts (with Postman collection). * **Bonus:** Write API integration test scripts in supertest, axios, jest, mocha, chai (Bonus in bonus: If using POM) * Verify status codes, response body and response errors. Set/Get variable for further request. * **Bonus**: If using database query functions for API javascript test scripts |
| 30% | UI E2E Test | * Manual UI testing (visuals, functionality, user interaction, etc.)   + UI E2E automation test scripts (with Cypress, Selenium WebDriver, TestCafe, etc.).   + **Bonus:** If using BDD approach (Cucumber).   + **Bonus:** If using POM (Page Object Model), or App Action in Cypress. |
| 5% | Test Report | * Test Report in detail. |
| 20% | Presentation & Demo | * Fluent in English * Good presentation skills * Able to deliver in time (roughly 30min Presentation + 10 minute Q&A) * Able to explain all testing components |

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## Week 2: Write Test Cases

1. [Scanner test] A program reads three integer values from a card. The three values are intpreted as representing the lengths of the sides of a triangle. The program prints a message that states whether the triangle is scalene, isoceles, or equilateral. On a sheet of paper, write a set of test cases (i.e., specific sets of data) that you feel would adequately test this program.
2. [Scanner test] You are at the grocery store’s checkout counter. You have bought five items (x, y, z, a, and b). You make payment and move to the EXIT door.
3. [Ballpoint pen test] Hold a ballpoint pen. Identify the types of testing you would perform on it to make sure that it is of the highest quality.
4. [Mouse test] Hold a bluetooth mouse, identify the types of testing you would perform on a mouse to make sure that it is of the highest quality.
5. [Gun test] You put on bug repellent. However, you still get stinged by mosquitos. What are the possible causes?
6. There is a simple program with the following items: Input Box A & Input Box B & ADD button with Result Text Box [=A+B]. Identify all the test cases for the program.
7. [The Old Google look]



1. How many defects can you spot?



## Week 2: Static Testing

### I. First Scenario

Say this is the requirements for a banking site that is big on security. There is a section in the requirements that talks about the password rules for the various users creating an account with the online banking site.

One of the rules is: **A user cannot use a password that he/she uses for other accounts.**

→ As a Quality Engineer in the meeting, what would you do?

### II. Second Scenario

Purpose: Scenario that describes the use of an online Exam system by a representative student

Individual: Student A, senior at Cornell, major in computer science.

Equipment: Any computer with a supported browser.

Scenario:

1. Student A authenticates.

2. Student A starts browser and types URL of Exam system.

3. Exam system displays a list of options.

4. Student A selects CS 1234 Exam 1.

5. A list of questions is displayed, each marked to indicate whether completed or not.

6. Student A selects a question and chooses whether to submit a new answer or edit a previous answer.

7. The first question requires a written answer. Student A is submitting a new answer. The student has a choice whether to type the solution into the browser or to attach a separate file. Student A decides to attach a file.

8. For the second question, the student chooses to edit a previous answer. Student A chooses to delete a solution previously typed into the browser, and to replace it with an a]ached file.

9. As an alternative to completing the entire exam in a single session, Student A decides to save the completed questions work to continue later.

10. Student A logs off.

→ co can hoi xac nhan lai khong?

→ co tinh thoi gian tiep khong?

11. Later Student A login, finishes the exam, submit the answers, and logs out.

→ co luu lai cac cau tra loi truoc khong?

12. Student A has now completed the exam. The student selects an option that submits the exam to the grading system.

→ co nen show cho user biet cac cau chua complete k ?

## Week 1: Introduction to Testing

* Set up GitHub Account, Google Account and O’Reilly
* Set up VSCode environment, extensions and testing utilities.