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The Odin Project Notes

A collection of notes

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# Foundations – Introduction

## How This Course Will Work

* “The Odin Project is an open-source community dedicated to providing the best information sources to take you from zero to a full-stack developer”
* Will go over the basics of internet, Git, GitHub, HTML, CSS, JS, back-end technologies, etc
* Lessons will contain questions that should be answered before moving on
* After the foundations course, the Full Stack JavaScript and Full Stack Rails paths can be taken
* A collection of the best sources that could be found by the community
* Some things made by the community themselves

## Introduction to Web Development

* Web development is project-focused and involves collaborating with a team that helps to co-ordinate the client’s needs into the end product.
* Front end:
  + What the website visitors see
  + The presentation of content and user interface elements
  + Use of HTML, CSS, and JavaScript
* Back end:
  + “The guts of the application”
  + Stores and serves data to ensure the front end has what it needs
  + Uses languages such as Java, Python, and Ruby
* Full Stack:
  + Developers that are comfortable working with both the front and back ends
  + The Odin Project focuses on teaching full-stack development
* Can work for large tech companies, startups, as a freelancer, or as a consultant
* <https://web.archive.org/web/20160925155912/http://www.happybearsoftware.com/how-to-get-a-programmer-job.html>
* Can help add to the project (Will be good for CV)
* <https://github.com/kamranahmedse/developer-roadmap>

## Motivation and Mindset

* Someone with a ‘fixed mindset’ believes that if they don’t get something on their first attempt, they never will
* Someone with a ‘growth mindset’ believes they can get better at anything with effort and persistence
* Intelligence is not fixed and can be developed
* ‘Focus mode’ is when your mind is focused on learning, reading, watching videos, or working on a project
* ‘Diffuse mode’ is when you are not actively learning and is the state where your mind starts to connect what you have been learning (This is why when you are falling asleep you might have a breakthrough on a problem you were stuck on)
* This is why taking a break when you are really stuck on a problem is good as you can usually come up with a solution
* Teaching things to others is a great way to solidify what you have learned

## Asking For Help

* It is essential to ask well formed questions to make it easier for people to help
* Always provide code and the surrounding context
* Ask for help, not the solution itself
* <https://medium.com/@gordon_zhu/how-to-be-great-at-asking-questions-e37be04d0603>
* Text

  Description automatically generated<https://xyproblem.info/> - When people ask about their attempted solution rather than their actual problem.
* <https://stackoverflow.com/help/how-to-ask>
* https://slash7.com/2006/12/22/vampires/

Question Answers:

1. Context or code
2. Where someone asks for help with Y to assist their solution with X when they really should be using an alternative X. Asking about their attempted solution rather than their actual problem.
3. Doesn’t google things/read docs, doesn’t ask specific questions, asks common questions that have already been answered before

## Join the Odin Community

* Working and collaborating with other people is an important part of working as a web developer
* Use the #TheOdinProject
* Community discord
* Rubber duck debugging – Go through the code line by line
* Use backticks in discord to show code different from the rest of the text.
* Use three backticks above and below code for multiple lines of code
* Specify the language after the three backticks to add colour

# 

# Foundations – Prerequisites

There are not many notes for this section as I already know lots about the topics taught in this section, thanks to GCSE’s and A-Level’s.

## Computer Basics

* <https://edu.gcfglobal.org/en/computerbasics/what-is-a-computer/1/>
* <https://edu.gcfglobal.org/en/computerbasics/understanding-operating-systems/1/>
* <https://edu.gcfglobal.org/en/computerbasics/understanding-applications/1/>
* <https://edu.gcfglobal.org/en/basic-computer-skills/open-source-vs-closed-source-software/1/>
* <https://edu.gcfglobal.org/en/techsavvy/taking-screenshots/1/>
* <https://edu.gcfglobal.org/en/techsavvy/password-tips/1/>

Question Answers:

1. Windows is an operating system
2. Open source software is software where the source code is publicly accessible and usable. Closed source software is the opposite.
3. Showing error messages to show IT support and showing evidence of code for exams.
4. Weak: password123 🡪 Strong: P4$$w0rD231

## How Does the Web Work?

* <https://www.youtube.com/watch?v=eHp1l73ztB8>
* <https://developer.mozilla.org/en-US/docs/Learn/Common_questions/How_does_the_Internet_work>
* <https://www.youtube.com/watch?v=7_LPdttKXPc&t=46s>
* <https://www.youtube.com/watch?v=BrXPcaRlBqo>
* <https://developer.mozilla.org/en-US/Learn/Getting_started_with_the_web/How_the_Web_works#Clients_and_servers>

Question Answers:

1. A network is two or more computers that are connected to share data.
2. A global network of networks
3. A unique identifier for a computer using the Internet Protocol
4. A router connects networks together. It allows devices to connect to the internet.
5. A client is a device that is requesting and receiving data from a server and using its services.
6. A server is a device that stores and provides data, services, or programs to client devices.
7. A web page is a document for the WWW, viewed in a web browser.
8. A web server is a server that stores websites and processes HTTP requests
9. A web browser is software that is used for accessing websites/the WWW
10. Software that searches the WWW using search queries
11. A DNS request is a request to a **Domain Name Server** asking it what IP address is associated with a given domain name
12. Google Chrome is the browser I use the most
13. You send a query (a set of keywords) to google who will then go through their database of webpages and find pages that are the most relevant to what you searched. You can then click on one of the pages returned to go through the process of loading the page (DNS request, request to web server, response from web server, website sent to client, web page loaded in client’s browser)

## Installation Overview

* Dual-booting is where you install two operating systems on your computer, which can give you the option to boot either OS when your computer first starts up.
* A virtual machine is an emulation of a computer that runs within your existing OS.

## Installations

* The Odin Project recommends using either a virtual machine or dual-boot to use Linux as it doesn’t support windows.

## Text Editors

* “A good text editor can help you write better code with real-time code checking, syntax highlighting, and automatic formatting.”
* Microsoft Word and Libre-Office Writer cannot be used as they store information about how to display the text on the screen which means interpreters unable to execute the file as code.
* Code editors are tools that can take a text file an provide features such as plugins, syntax highlighting, auto-closing of brackets and braces, and linting. Visual Studio Code (VSCode) is the most popular choice.

## Command Line Basics

* The command line interface (CLI) is where you can enter commands that your computer will run.
* $ is used to show that what follows is a command that should be put into the terminal.

Question Answers:

* A command line is an interface that lets the user enter commands which will be carried out by the computer
* You can open it by clicking the icon on your GUI OS or by pressing CTRL + ALT + T (on linux)
* You can navigate to a directory by entering $ cd /file/path
* cd on its own will take you to your home directory
* $ cd .. will take you back up a directory
* $ pwd will display which directory you are in and the path to get there
* $ ls is used to display the contents of the directory you are in
* $ mkdir directoryName is used to create a new directory
* $ touch fileName is used to create a new file
* $ rm fileName will delete the named file 🡪 rmdir directoryName will delete the named directory
* $ mv oldfile.txt newfile.txt will rename a file 🡪 $ mv oldDirectory newDirectory

## Setting Up Git

* Git is a popular version control system
* GitHub allows you to upload code/files using Git and manage your code using a web interface.