Module 3 - Digital Ocean Project

Advanced Computer Science Studies in Sweden, 5.0c 33% DAG NML, Autumn 2017, 
Course code: 1DT032, Report code: 11210

Introduction to Studies in Embedded Systems, 5.0c 25% DAG NML, Autumn 2017, 
Course code: 1DT086, Report code: 11211
Mentimeter

Love it so much
Module 3 - Overview

- Assignment
- Groups
- Server setup
- Software package
- Presentation
Assignment

Expect to work at least 20 hours in total in the next two weeks

- Work in a team to build a website
- Choose a server setup (i.e., server architecture)
- Choose a software package (i.e., LAMP, Django, NodeJS)
- Build a website with information about your team and the project
- Give a final presentation

More detailed information can be found in the assignment instructions in studentportalen
Groups

- You can pick your own groups in studentportalen
- Probably good to be in a group that will use a tech you want to learn
- **Class on Friday will be a workshop for finding groups** and getting started
- Deadline for either finding a group or being assigned to a group is Friday 13/10 at 17.00
Digital Ocean

... is a virtual server hosting platform

- Similar to heroku
- Available through the Github Student developer pack
- Has *lots of great documentation* about server tech
Server stuff
Web server basic
LAMP Stack

- Linux operating system
- Apache HTTP Server - software to service HTTP requests
- MySQL relational database management system
- PHP programming language

This is an example of what you can use in your project
Apache
- Most popular web server
- Open source
- Cross platform
- Process/thread architecture

Nginx
- Growing in popularity
- Open source
- Cross platform
- Event driven architecture
Server software
Drupal C.M.S.

- CMS -> web interface for users to be able to add content without having to know how to program.
- Lots of great built-in design and security features.
- Runs on top of LAMP
- Widespread use even after 10 years

Django

- Open source Python web framework
- Much more programming than Drupal
- Runs with Postgres (database), Nginx (server), on CentOS 7

Node.js

- Open source JavaScript framework
- Popular in web development
- Runs with Nginx
- Develop in pure JavaScript: front end + back end

Source: https://www.digitalocean.com/community/tutorials/how-to-set-up-a-node-js-application-for-production-on-ubuntu-14-04
Practical info
Work structure

● There will be lots of different ways to work on this assignment.
● You are super encouraged to use git for this project
  ○ If you haven’t learned before now is the time
● Please use SSH-keys for auth
● You can also use trello, if you’re into it
● Communicate with the other people in your group about things you think are interesting and if you need help
● Challenge yourself to learn more about this technology
Presentation

Assessment will be done through group presentations:

- Approx 15-20 minutes for presentation and demo
- Minimum 6 slides (with one graphic about server architecture)
- Everyone in the group should talk about at least one topic
- Tuesday 24/10 13.00-17.00 and Wednesday 25/10 13.00-17.00
- Attend one two hour slot
  - Present once
  - Review for three other groups
Here’s an example of how you can structure your presentation:

- Introduction
- Server setup
- Software used
- Workflow (ie how did the group work together)
- Demo
- Conclusions/questions
Questions...