

Software Engineering Seminar 01 - Overview of the course and the technology components

SE - What's it all about?

This module brings together a lot of different technology skills with professional practice and team working.

You will create a web application ie. a dynamic website that fulfills a 'business' need

Here are the 'moving parts'

Web technologies

- 'Frontend' - HTML markup, CSS styling, Javascript for dynamic features on the page
- 'Backend' - SQL database, node.js / express 'backend' framework
- Angular.js - a framework for integrating frontened and backend code

Teamworking technologies/tools

- Git - Source code version control
- Docker - consistent development environments and deployment pipeline
- Visual studio Code - your personal 'Integrated Development Environment'

Teamworking methods /tools

- Scrum/kanban
- Agile user stories

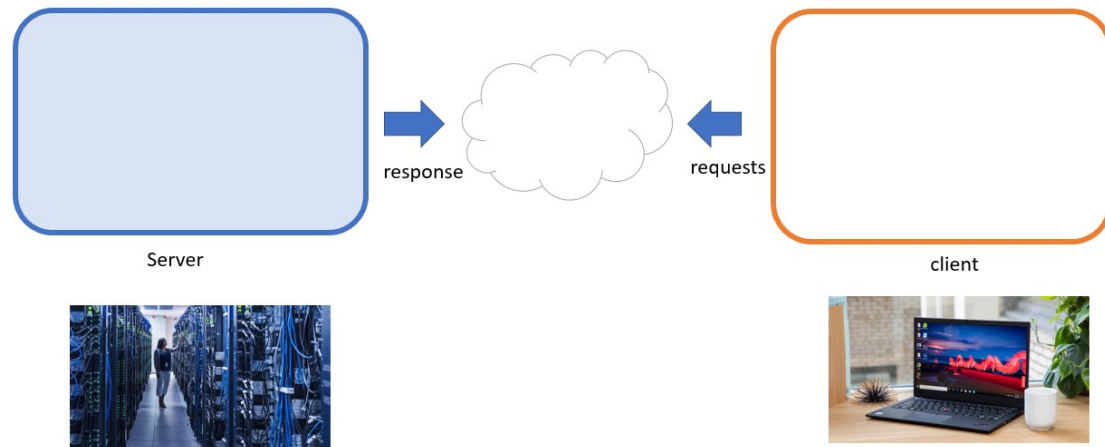
What you will do

1. Learn the key web development technologies - frontend then backend
2. Learn about professional development tools
3. Form teams in which you will specify a project, and use the teamworking and frontend/backend technologies to realise it

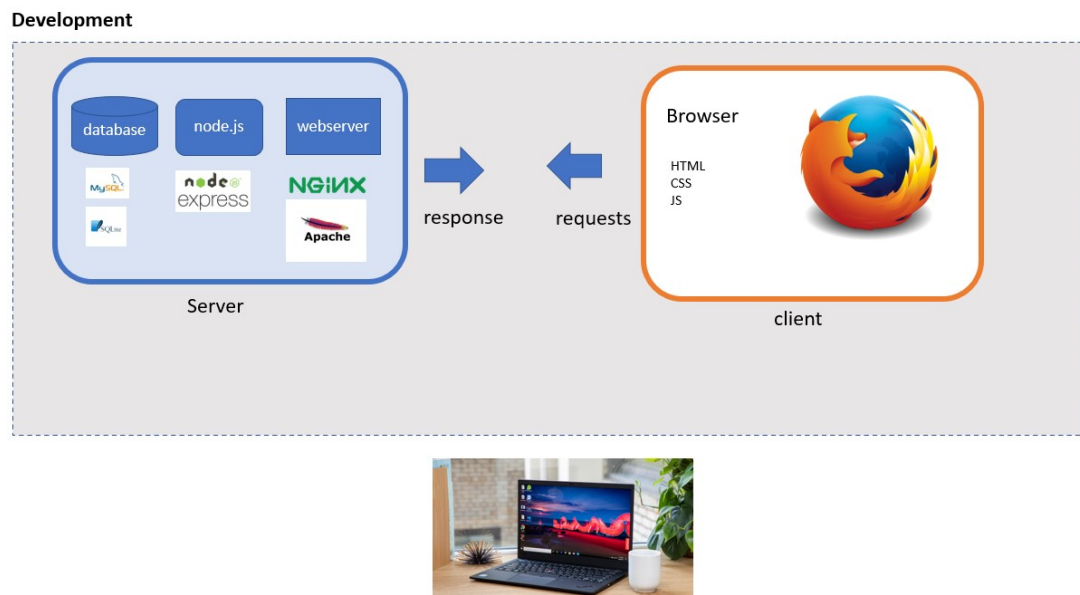
Technology components of your web app

Fill in the gaps!

Production - The pages and server-side functionality are accessed over the internet

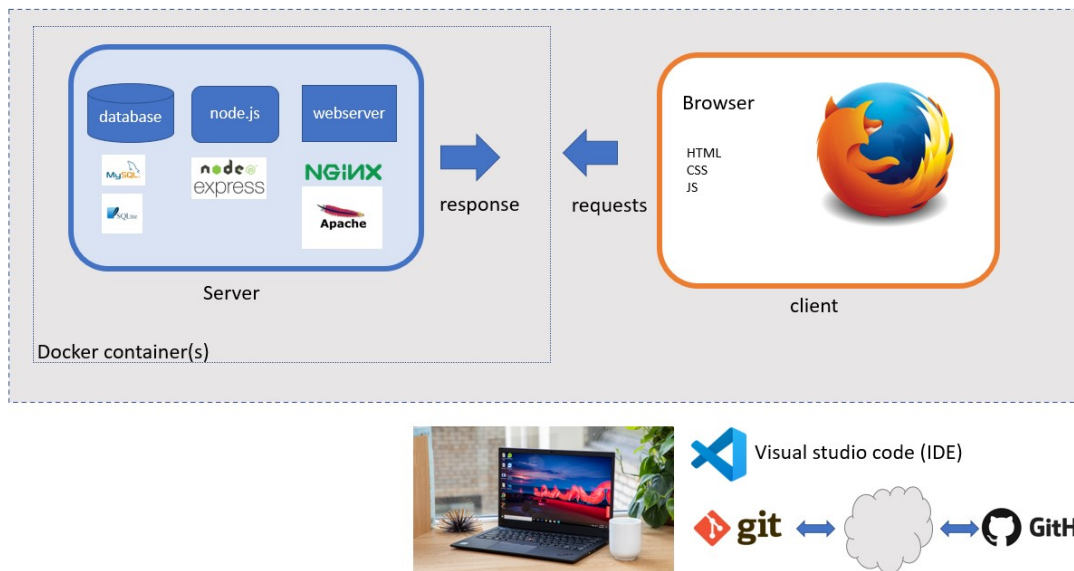


Development - The pages and server-side functionality AND the client side (browser) are all one computer



Development with containers - The pages and server-side functionality AND the client side (browser) are all one computer BUT the server-side software is in Docker 'containers' to allow for consistent development environments. This version also shows your software

development tools - IDE (visual studio code for development and GIT for version control, connected online to github, allowing you to share with colleagues)



Where is all this leading?

- Consider static web pages eg. 'brochureware'
- Now consider a dynamic 'web app' that does something: eg. online shopping, moodle, and that is 'personalised'
- You will use the tools described here to create a dynamic, web app by integrating a 'backend' database, using node.js framework into dynamic web pages

Exercise

Lets think of some web sites we use frequently and see what we can find out about the frontend/backend technologies they use, and take an educated guess at how they store and retrieve data.

Use 'developer tools' in your browser to examine the source code. For reference: [Here](#)

How will we go about this?

- Next week, we will form the teams
- Teams will be using an Agile / scrum methodology to create projects
- Your assignments will be the results of 4 week 'sprints'
- You will maintain a taskboard, and have regular standups

- You will use professional teamworking methods and tools to specify, organise and develop code
- Though you might have different roles in the group project, EVERYONE should master the fundamentals of building a database-driven application