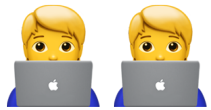
Web Application Development

About

Offline	Lectures	Practices	Homework
32 hours	8 hours	24 hours	72 hours

Course staff



- Instructor:

  associate professor, PhD, Alexander Menshchikov

- Assistant:

  vacant ;(

Course objectives

- Obtain knowledge of the **basic** principles for the web-development
- Practice by developing several web applications

You will be able to

- Use Python language to build web applications
- Deploy web application into secure environment
- Develop a full stack web application

In details

- Frontend fundamentals
- Backend fundamentals
- Data storage and authentication
- Databases
- Production deploy
- Docker
- Group work

In details

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Feb 6-12					L1	P1	
Feb 13-19					L2	P2 self-study	
Feb 20-26						Team work self-study	
Feb 27- March 05	L3				consultation	Finals Demo day	

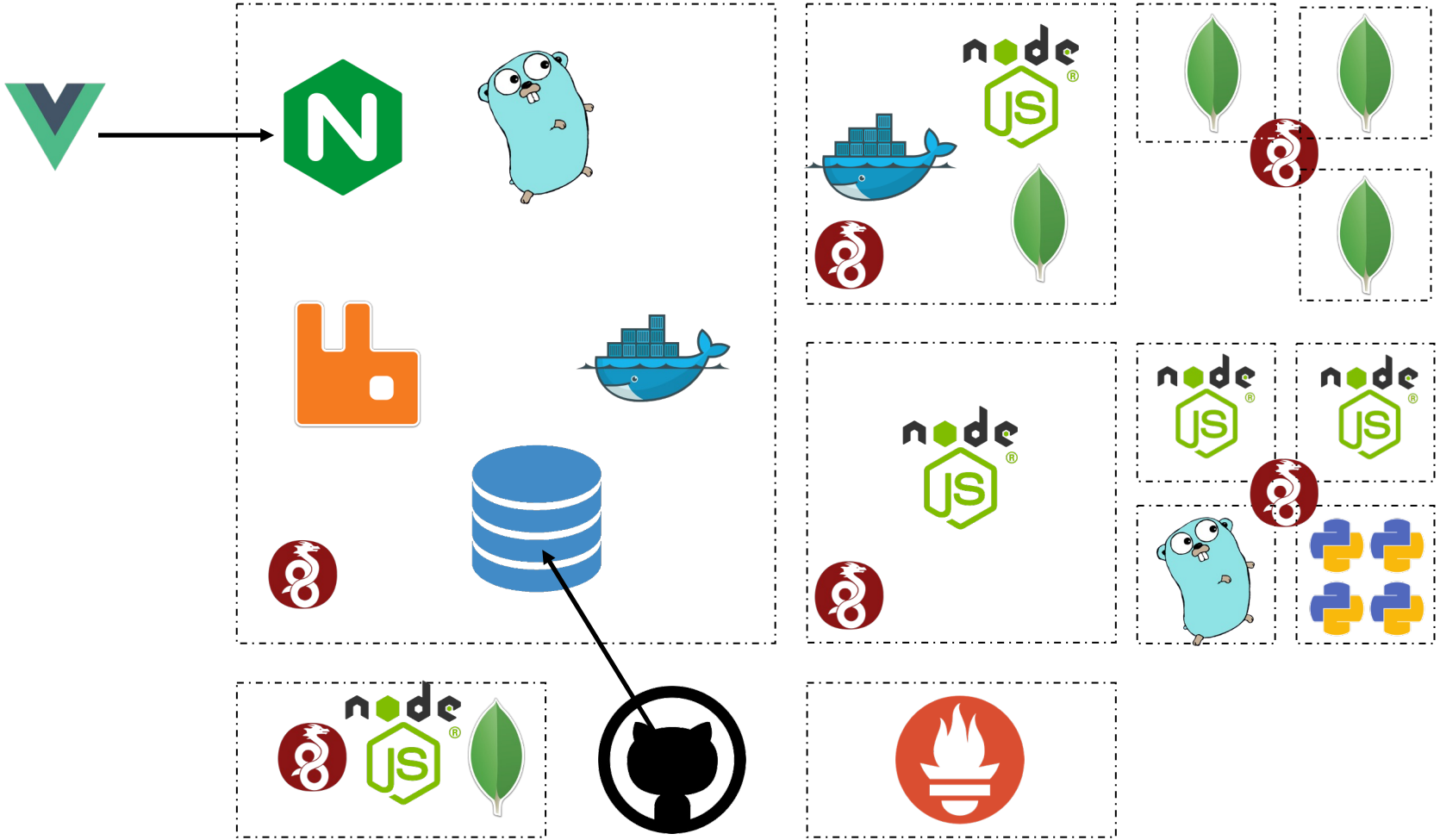
Syllabus

- Frontend fundamentals — **How to visualise website**
- Backend fundamentals — **How to run dynamic website**
- Data storage and authentication — **Where to store data; How to identify users**
- Databases — **How to store/search/update data on scale**
- Production deploy — **Where to buy server; How to run application on server**
- Docker — **How to wrap up your application**
- Team work — **How to organize a software development team**

Topics

- Frontend fundamentals — **HTML, CSS, JS, git**
- Backend fundamentals — **HTTP, Python, Flask, Web Protocols**
- Data storage and authentication — **Cookie, authentication, JSON**
- Databases — **Key-value, MongoDB, PostgreSQL, Redis**
- Production deploy — **VPS, Linux, DNS, DevOps, Nginx, Proxy, SSL**
- Docker — **Docker, docker-compose, k8s?**

https://www.tiobe.com/tiobe-index/

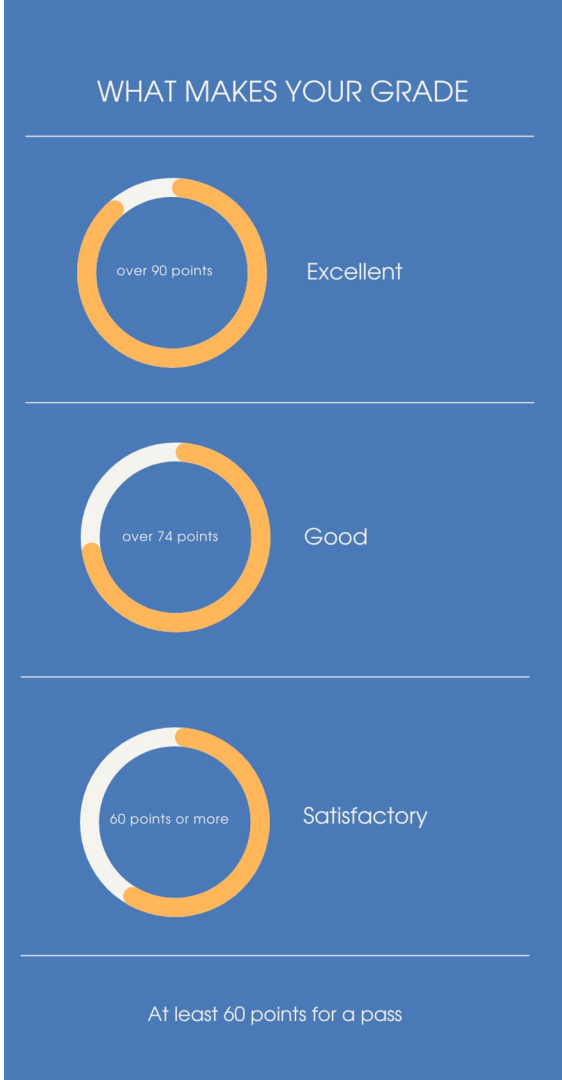


Prerequisites

- Any programming language
- Basic level of HTML+CSS

Assessment

- Final group project (40%)
- Homeworks (30%)
- Lab (30%)
- Non-zero number of commits, pull-requests, code reviews, etc.



About myself

- Work in IT

  Software developer → Web developer → Lead web developer → Engineering manager

- ITMO

  PhD, Associate professor

- CodeX

  Web developer → DevOps

Team work

- Randomly and non-randomly shuffled teams
- Different levels (difficulty) of homework
- Communication and team-work experience

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Working on a project in Teams

Prepare a pitch and fix bugs