

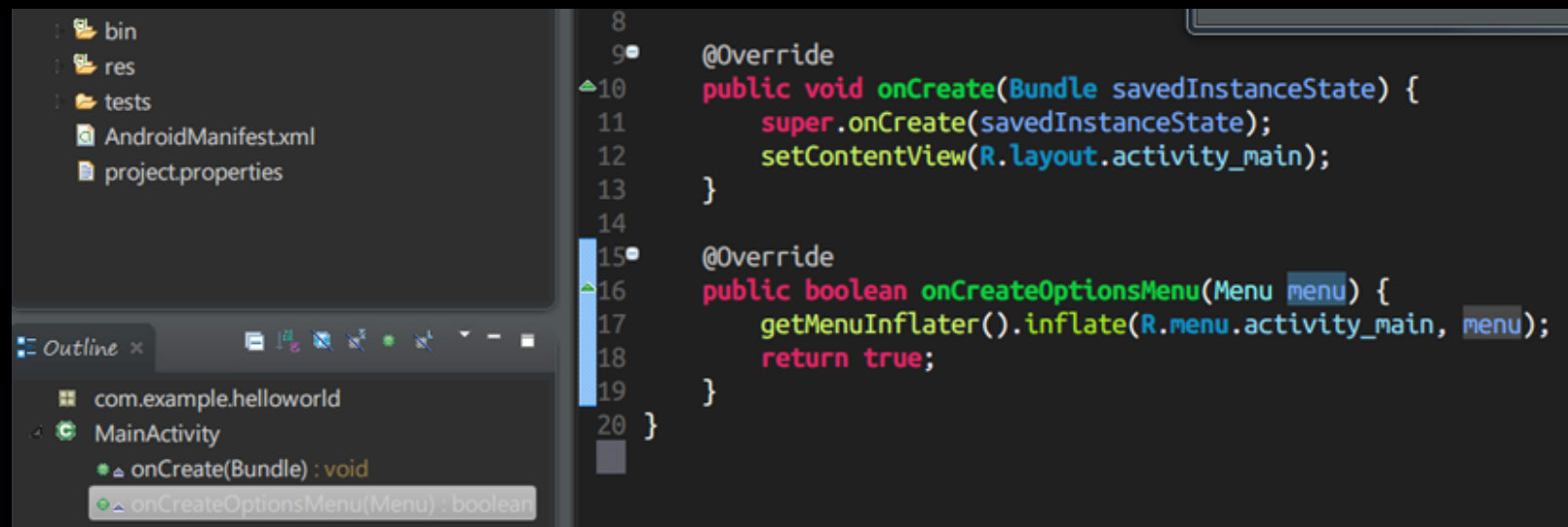


**SoftUni Team**  
**Technical Trainers**  
**Software University**  
**<http://softuni.bg>**



# Java Basics

## Course Introduction



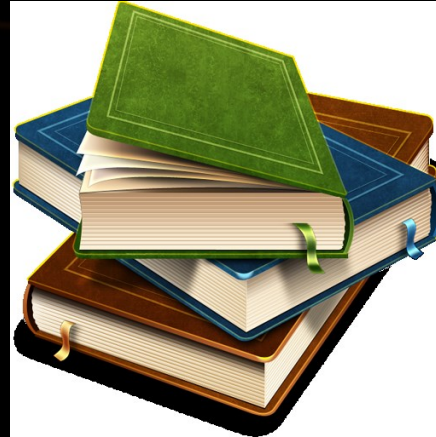
# SoftUni Diamond Partners



# Table of Contents



1. Course Objectives
2. Course Program
3. Trainers Team
4. Examination
5. Learning Resources



# Warning: Not for Absolute Beginners

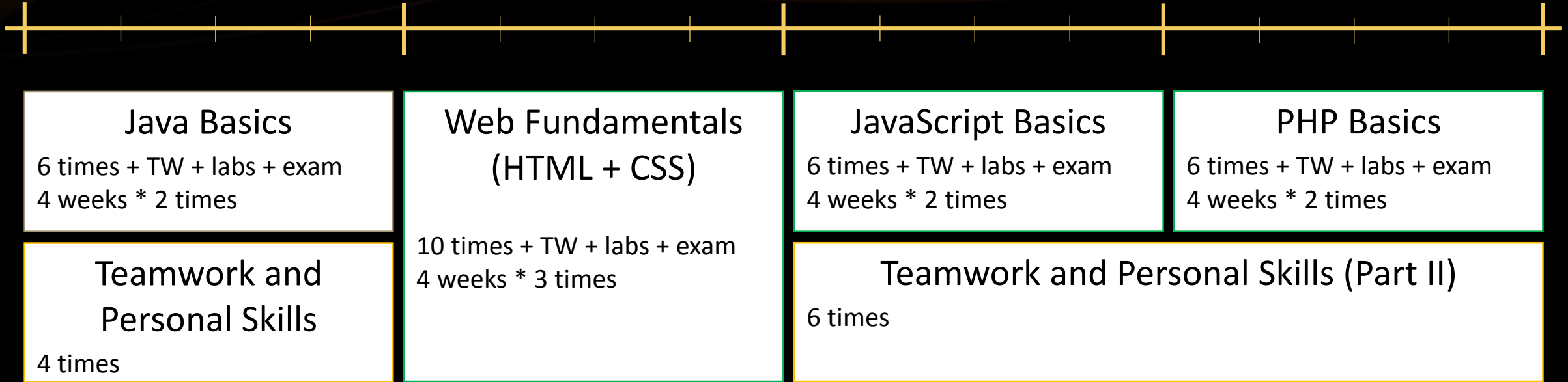


- The "**Java Basics**" course is NOT for absolute beginners
  - Take the "C# Basics" course at SoftUni first:  
<https://softuni.bg/courses/programming-basics>
  - The course is for beginners, but with previous coding skills
- Requirements
  - Coding skills – entry level
  - Computer English – entry level
  - Logical thinking





# Level #1 at the Software University





# Java Basics

**Java Basics Course**  
Course Objectives & Program

# Course Objectives



- The "Java Basics" course:
  - **First steps** in Java programming:
    - Compiler, IDE, variables, control-flow logic, console I/O, loops
    - Methods, arrays, lists, sets, maps, strings
  - Develop **algorithmic thinking** and problems solving skills
  - **Prepare** for learning other languages and software technologies
    - HTML, CSS, JavaScript, PHP, Python, Ruby, ...
    - Databases & SQL, high-quality code
    - Web development technologies & mobile platforms



# Java Basics – Course Topics



1. Course Introduction. Introduction to Java, JDK and Eclipse
2. Primitive Data Types and Variables  
Operators, Expressions and Statements  
Console-Based Input and Output  
Conditional Statements (if-else, switch-case)
3. Loops (while, do-while, for, foreach)  
Methods. Basic Exception Handling  
Using Built-In Java Classes. Defining Own Classes
4. Arrays, Strings, Lists, Dictionaries, Sets
5. Team work + Labs + Workshops
6. Practical Exam







# The Trainers Team

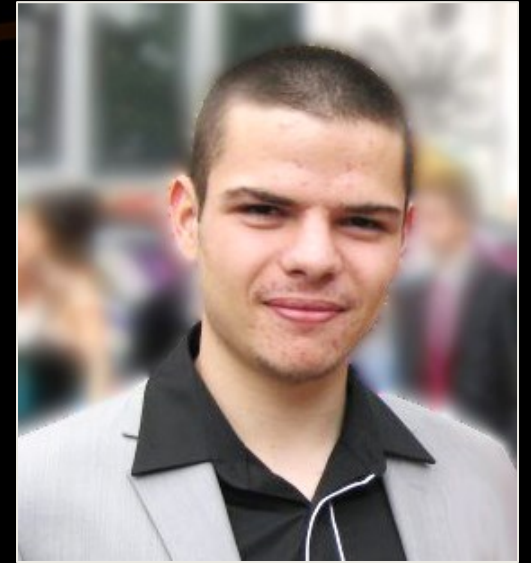
# Trainers Team

- **Svetlin Nakov, PhD**
  - Training & Inspiration Manager  
@ Software University
  - 20+ years software development experience
  - 10+ years experience as trainer
  - Author of 7 programming books
  - Speaker at hundreds of events
  - Web site & blog: [www.nakov.com](http://www.nakov.com)



# Trainers Team (3)

- **Bogomil Dimitrov**
  - Junior trainer @ SoftUni
  - Top performing student from the Software University (2014)





# Volunteer Teaching Assistants



- 15+ volunteer teaching assistants
  - Scholarship students from SoftUni
  - Top students from SoftUni







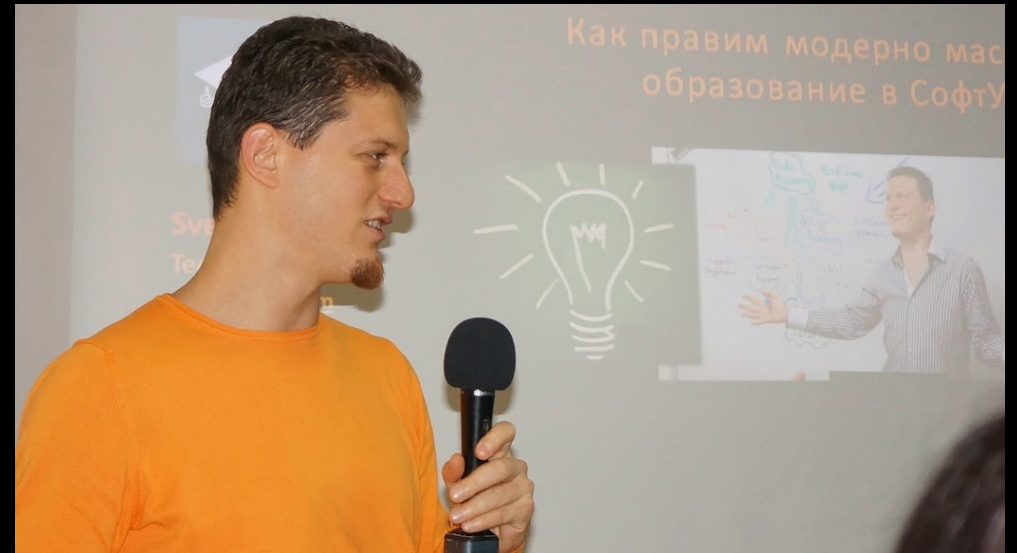
# Java Basics Course: More Details

## Duration, Languages, Technologies

# Training Duration – Java Basics



- Lectures: ~ 30-40 hours (onsite + YouTube videos)
- Practical exercises (in class): ~ 20-30 hours
- Homework: ~ 30-50 hours
- Team project: ~10-20 hours
- Exam preparation: ~ 20 hours
- Exam: 5 hours
- Schedule: 12-28 January 2015
- Exam date: 8 February 2015



# Why Java?



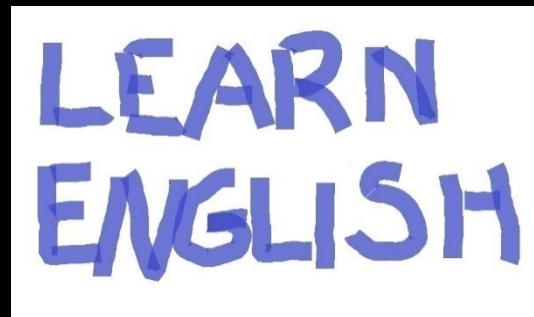
- The **Java platform** is very popular
  - Free and open-source software (see [OpenJDK](#))
  - Runs everywhere, on millions of devices
  - Supported by big players: Oracle, IBM, Google, SAP
  - Runs many languages: Java, Python, Ruby, Groovy, Closure, ...
- The **Java language**
  - Modern object-oriented language
  - 7-10 millions Java developers in 2012 ([source](#))





# Why English?

- Why the slides are in English?
  - **English** is the native language of the software engineers
  - Specific terminology should be in English
    - Translations are inaccurate and funny
- Just learn English!
  - No excuses







☒ Excellent  
☐ Very good  
☐ Good  
☐ Average  
☐ Poor

# Java Basics

## Evaluation Criteria

# Scoring System for the "Java Basics" Course



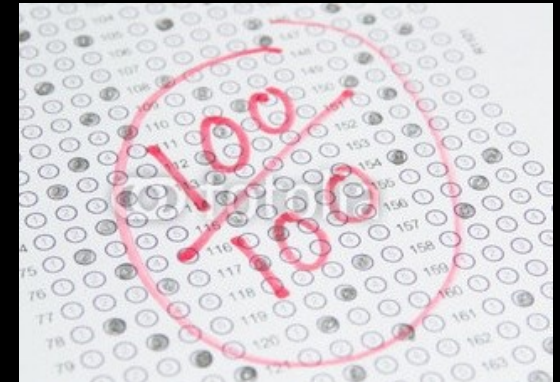
- Exam – 80%
- Labs – 10% (added to the exam results)
- Homework + evaluation – 5% + 5%
- Team work – 10%
- Bonuses – up to 10%
- Presence in class – 5% (onsite students only)





# The Java Basics Exam

- Practical programming exam
  - 4 practical problems for 5 hours
    - 1 easy, 2 with loops, 1 with arrays / sets / strings
    - You should code in Java
  - Automated judge system with real-time feedback
    - <http://judge.softuni.bg>
  - Solutions are evaluated for correctness only
    - Code quality is still not measured



# Homework Assignments

- Doing your homework is very **important!**
  - Programming can only be learned through a lot of practice!
  - You should write code every day!
- Each lecture is followed by a few exercises
  - Try to solve them in class
  - The rest are your homework
- Homework assignments are **due in 1 week** after each lecture
- Submission will be accepted through our web site: **[softuni.bg](https://softuni.bg)**





# Homework Peer Reviews



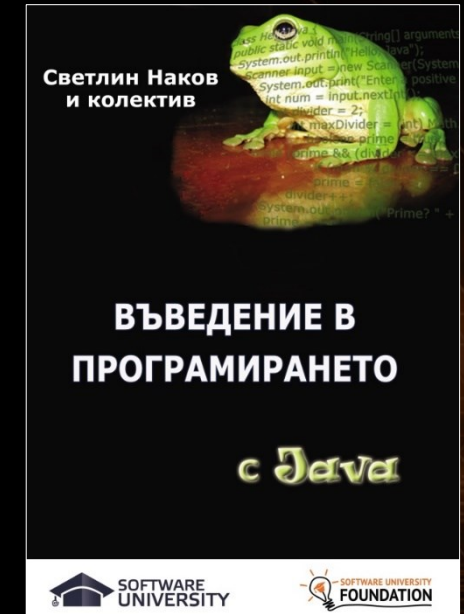
- Give feedback to a few random homework submissions
  - Students submit homework anonymously
    - Please exclude your name from the submissions!
- For each homework submitted
  - Students evaluate 3 random homeworks
  - From the same topic, after the deadline
  - Give written feedback, at least 200 characters
  - Low-quality feedback → report for punishment
- Everyone will get feedback for their homework





# Resources

## What We Need Additionally?



# Course Web Site & Forums



- The Java Basics official **web site**:

<https://softuni.bg/trainings/1080/Java-Basics-Jan-2015>

- Register for the "**Software University Forum**":
  - Discuss the course exercises with your colleagues
  - Find solutions for all course exercises
  - Share source code / discuss ideas / help each other



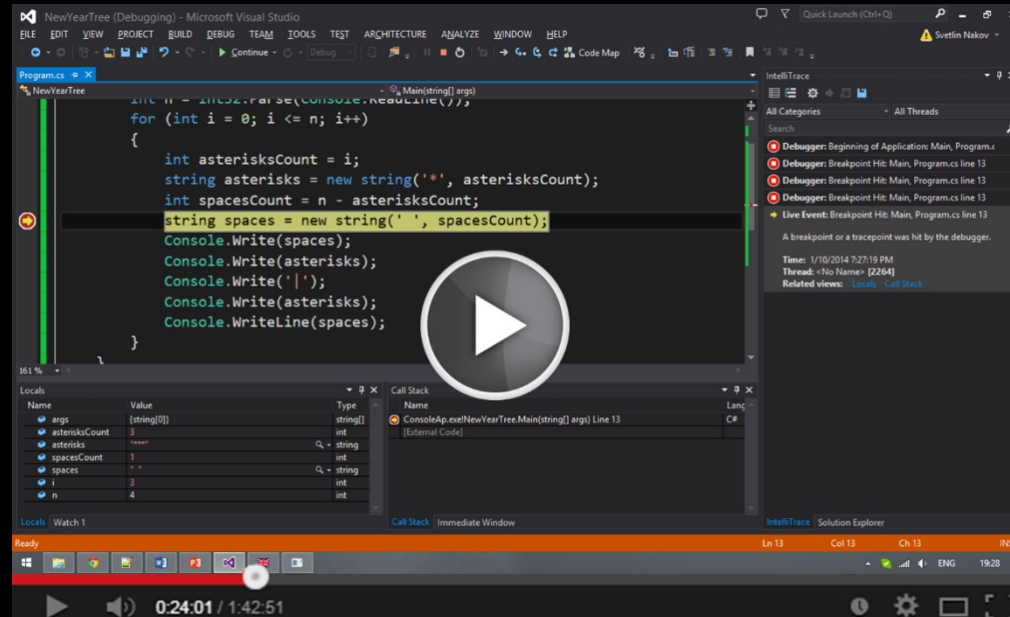
<https://softuni.bg/forum>



# The Java Programming Slides and Videos



- All lecture slides, videos, homework assignments, projects and other resources are open content, available for free
- Visit the course web site to access the course resources





# Free Java Fundamentals Textbook



- The official textbook for the Java Basics course



- “Fundamentals of Computer Programming with Java”, by Svetlin Nakov & Co., 2009, ISBN 9789544000554
- Bulgarian version only available (as PDF, ePub, ...)
- Freely downloadable from: [www.introprogramming.info](http://www.introprogramming.info)
- Read chapters 1...13 (up to Strings), optionally all others

- The official **Java Tutorial** from Oracle:

- <http://docs.oracle.com/javase/tutorial/java/>

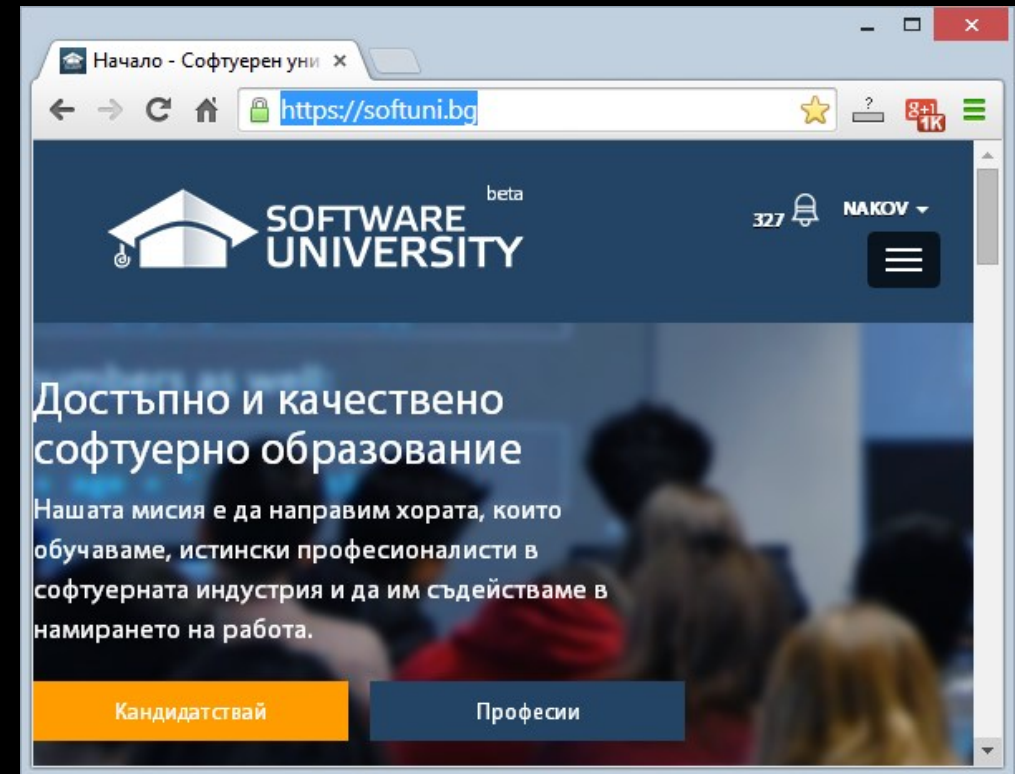


# Software University Learning System (SULS)



- Software University Learning System (SULS)

- [www.softuni.bg](http://www.softuni.bg)
- Important resource for students
- Homework submissions
- Homework check-up
- Exams and results
- Reports about your progress
- ...



# Required Software



- Recommended software for the Java Basics course:
  - **Linux** (your favorite distribution), e.g. Xubuntu 14.04
  - Optionally you can use Windows or other OS
  - **JDK 8** (Java SE Development Kit 8)
    - Install JDK (nor JRE!) – <https://jdk8.java.net/download.html>
    - Optionally you can use older Java version (e.g. JDK 6 or 7)
  - **Eclipse** for Java 8 – [www.eclipse.org/downloads/](http://www.eclipse.org/downloads/)
    - Any other Java IDE may also be used: IntelliJ IDEA, Netbeans, ...



# Summary

- The "Java Basics" course provides
  - The first steps in Java programming
- Training program
  - Java platform, using Eclipse, variables, control-flow logic, loops, advanced topics
- Practical exams
  - Automated judge system + score system
- Learning resources
  - Lectures, videos, software, books, forum



# Java Basics – Course Introduction



Questions?



# License



- This course (slides, examples, demos, videos, homework, etc.) is licensed under the "Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International" license



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  - "Fundamentals of Computer Programming with C#" book by Svetlin Nakov & Co. under CC-BY-SA license
  - "C# Part I" course by Telerik Academy under CC-BY-NC-SA license



# Free Trainings @ Software University

- Software University Foundation – [softuni.org](http://softuni.org)
- Software University – High-Quality Education, Profession and Job for Software Developers
  - [softuni.bg](http://softuni.bg)
- Software University @ Facebook
  - [facebook.com/SoftwareUniversity](https://facebook.com/SoftwareUniversity)
- Software University @ YouTube
  - [youtube.com/SoftwareUniversity](https://youtube.com/SoftwareUniversity)
- Software University Forums – [forum.softuni.bg](http://forum.softuni.bg)

