Distributed Systems UE . 16W

Kickoff Meeting

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Why Distributed Systems?

Bachelor

Programming skills
- Program Construction
- Algorithms and Data Structures
- Object-oriented Programming

Parallel & distributed software
- Distributed Systems VO / UE

Rich-client software
- Software Engineering & Project Management

Master

Distributed enterprise software
- Distributed Systems Technologies
- Advanced Internet Computing
Requirements

Solid programming skills

Java concepts

- I/O, handling streams
- Standard.in/out
- Data structures

Basic *NIX knowledge

- If you are not familiar with *NIX environments (e.g., Linux), DSLab is a good opportunity to start using it
Lab Structure

Lab 0
Registration

Lab 1 - Basics
- Socket communication
- Multithreading
- Distributed architecture

Interview

Lab 2
- Based on Lab 1
- Java RMI
- Security

Interview

Lab Test (Optional)
- MC Test
  Theoretical knowledge
- Programming test
  Technical understanding

5 Weeks
19., Nov. - 24., Nov.

8 Weeks

Lab Test (Optional)

24., Jan.
## Lab Structure - Grading

### Tasks

<table>
<thead>
<tr>
<th>Task</th>
<th>Content</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab 0</td>
<td>Sockets</td>
<td>3</td>
</tr>
<tr>
<td>Lab 1</td>
<td>Sockets</td>
<td>22</td>
</tr>
<tr>
<td>Lab 2</td>
<td>RMI, Security</td>
<td>35</td>
</tr>
<tr>
<td>Lab Test</td>
<td>Sockets, RMI, Security</td>
<td>40</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>100</strong></td>
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</tbody>
</table>

### Grading Scheme

<table>
<thead>
<tr>
<th>Points</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 85</td>
<td>S1</td>
</tr>
<tr>
<td>≥ 70</td>
<td>U2</td>
</tr>
<tr>
<td>≥ 60</td>
<td>B3</td>
</tr>
<tr>
<td>≥ 50</td>
<td>G4</td>
</tr>
<tr>
<td>&lt; 50</td>
<td>N5</td>
</tr>
</tbody>
</table>

### Constraints

Lab 0 ➤Lab 1 ➤7pt ➤Lab 2 ➤30pt ➤Lab Test

> 0pt

Distributed Systems Group
Closed book

- We provide API documentations

Covered Topics

- TCP, UDP, RMI, and security

Two part test

- 15 minutes multiple-choice test
- 45 minutes programming exercise

If you solved the lab yourself, the test should be no problem for you!
Lab 0 - Registration process

- Mandatory course registration step
  - If you do not solve it in time, you cannot continue the course
  - Once you have done it you will receive a grade
- Timeframe: 06.10. 18:00 - 13.10. 18:00

You (happy)

Connect to TCP socket

"!login <matr.-nr> <tuwel-userid>"

“Successful, account details: ..”

Registration server

Magic

(More details in TUWEL)
Lab 1 Scenario

1: login maria.at

4a: send hi everybody!

Chatserver

3: login steve.rome.it

4b: maria.at: hi everybody!

5: register 192.168.0.2:9999

6a: lookup steve.rome.it

6b: 192.168.0.2:9999

6c: msg hi steve!

6d: !ack

maria.at

bob.berlin.de

steve.rome.it
Lab Environment

Common ground

- Linux, Java 7, Eclipse Mars, Ant, …
- “But it worked on my computer”
- Your solution **has** to work in the lab environment

Testing your solution

- DSLab PCs
- Lab Servers
DSLab: Argentinierstraße 8, cellar

Accounts

- Receive account name with registration
- After the registration phase, we activate accounts
- Create your password at
  
  https://password.dslab.tuwien.ac.at

- You then have
  
  - Physical access to DSLab PCs
  - SSH access to servers
Course Organization

Completely over TUWEL [1]

- Course information
- Communication (News + Forum)
- Assignment submission
- Registration (Interview/Test)
- Grading

[1] https://tuwel.tuwien.ac.at/course/view.php?id=8308
Handing in plagiarism

- **Zero tolerance** policy
- We perform **rigorous** software plagiarism checks
- A plagiarized solution = **0 points**
In Case of Questions

1. Read the general course information in TUWEL
2. Read the assignments carefully
3. Ask questions in the TUWEL forum
   - Please help each other!
4. Organizational questions
   - dslab@infosys.tuwien.ac.at
5. Personal assistance in the DSLab PC room
Our Excellent Tutors

Andreas Bruckner  Lucas Kletzander
Julia Gleichweit  Bernhard Knasmüller
Thomas Hießl  Gabriel Pickl
Kristoffer Kleine  Matthias Seidemann

They will

· Answer your technical questions in the forum
· Provide emotional counsel in the DSLab
· Verify your solutions during the interviews
The Resource Problem

- Tutor availability
- Students in the Lab
- Probability of getting good answers to your questions

Lab deadline $t$
Have a great semester!

Any questions?

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