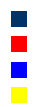



Distributed Systems


Administrative Issues and Overview

Winter 2002





Overview of Contents

- **Introduction**
 - What is a distributed application/system?
 - What is it good for?
 - What are difficulties?
- **How to build distributed applications**
 - OS basics/important communication protocols
 - TCP sockets
 - Distributed Objects with RMI and CORBA
 - web applications
- **Important issues in distributed applications**
 - name service
 - distributed file systems
 - security
 - replication

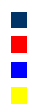


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Contents Chapterwise

- Part 1: Characterization of DS
- Part 2: System Models
- Part 3: Interprocess Communication with Sockets
- Part 4: Distributed Object Systems with CORBA and RMI
- Part 5: Creating Applications for the Web
- Part 6: Name Services
- Part 7: File Services
- Part 8: Security
- Part 9: Replication




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What we will not cover

- Distributed systems/applications are basic technology in many other fields, for instance distributed databases. Therefore, we will not cover topics which are rather covered there
 - transaction processing
 - distributed multimedia systems
 - multiprocessors and shared memory



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Prerequisites

- Good knowledge of basic Java programming!!
 - Editing, compiling, and executing programs
 - writing simple Java programs consisting of more than one class
 - know how to use Java IO
- Good knowledge of **networking** (lower layers up to TCP) – distributed systems rely on an existing network infrastructure
- It would be very helpful to have some experience with Unix operating systems (Solaris, Linux, etc.)

0-5



Literature

- Lectures follow closely:
Coulouris et al.: „Distributed Systems“, 3rd ed., Addison–Wesley, 2000.
- Tutorials:
Steflik and Sridharan: „Advanced Java Networking“, 2nd ed., Prentice Hall, 2000.
- Optional:
Eberhart, Fischer: „Java–Bausteine für E–Commerce–Anwendungen“, Hanser–Verlag, 2000.

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