

Configuration Management

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Lecture is every week Wednesday 09:00 - 11:00.

06.03.2019: topic, teams

13.03.2019: TISS registration, initial PR

20.03.2019: other registrations, guest lecture

27.03.2019: PR for first issue done, second started,
HS: kleiner Schiffbau

03.04.2019:

10.04.2019: mid-term submission of exercises

08.05.2019: (HS?)

15.05.2019:

22.05.2019:

29.05.2019:

05.06.2019: final submission of exercises

12.06.2019:

19.06.2019: last corrections of exercises

26.06.2019: exam

Popular Topics

14	tools	4	design
9	testability	4	cascading
9	code-generation	4	architecture of access
7	context-awareness	3	configuration sources
6	specification	3	config-less systems
6	misconfiguration	2	secure conf
6	complexity reduction	2	architectural decisions
5	validation	1	push vs. pull
5	points in time	1	infrastructure as code
5	error messages	1	full vs. partial
5	auto-detection	1	convention over conf
4	user interface	1	CI/CD
4	introspection	0	documentation

Tasks for today

(until 20.03.2019 23:59)

Task

Make sure to say which programming languages you know in STUDENTS.ini.

Task

Registration for talk, homework and teamwork (including team and working title as required in private repo).

Task

Write something in at least one issue (e.g. ask if you can have it).

Tasks for next week

(until 27.03.2019 23:59)

(hint: to get help submit at least one day earlier)

Task

Description of homework.

Task

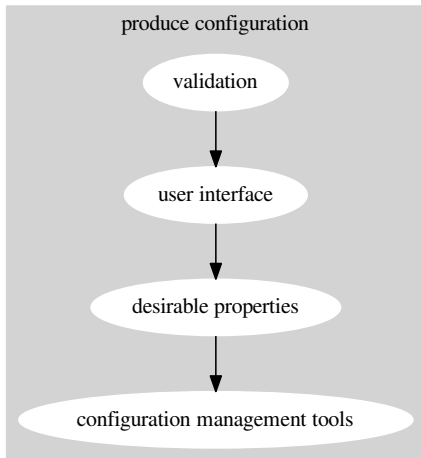
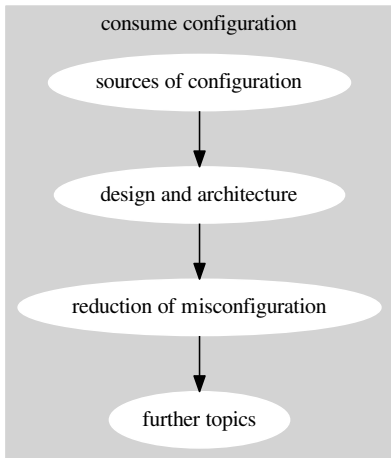
Description of teamwork (which application, which CM tool).

Either:

- Inside a folder (use GitHub name for the folder name) of the private repo as pull request.
- As new issue in the public libelektra repo.

Task

Fix at least one issue and write some text in at least one other issue.



Talk

about anything related to configuration management

- The duration must be not longer than 20 minutes (shorter is ok, content matters).
- It must be about your experience.
 - E.g., about the homework you did.
 - I.e., not only about study of literature.
 - If you extensively use some tool before, please share your experience.
- Two persons per date.
- Same topic allowed if persons coordinate their talk.
- **Slides must be in repo.**
(please CC licensed and with source)

Command-line Arguments

- 1 Command-line Arguments
 - Usage and Popularity

Is there something else?

- configuration files are the most researched of all configuration sources [1]
- but it is neither the most used nor most popular [2]

Q: “Which configuration systems/libraries/APIs have you already used or would like to use in one of your FLOSS project(s)?”

- command-line arguments (92 %, $n = 222$)
- environment variables (79 %, $n = 218$)
- S: API `getenv` is used omnipresently with 2,683 occurrences
- configuration files (74 %, $n = 218$))

Q: *“What is your experience with the following configuration systems/libraries/APIs?”*

- getenv (10 %, $n = 198$)
- configuration files (6 %, $n = 190$)
- command-line options (4 %, $n = 210$)
- X/Q/GSettings (41 %, 14 %, 35 %)
- KConfig (21 %)
- dconf (42 %)
- plist (32 %)
- Windows Registry (69 %)

Task

Which configuration source do you use most?

Task

Possible talk: About one of these sources.

- [1] Dongpu Jin, Xiao Qu, Myra B. Cohen, and Brian Robinson. Configurations everywhere: Implications for testing and debugging in practice. In *Companion Proceedings of the 36th International Conference on Software Engineering, ICSE Companion 2014*, pages 215–224, New York, NY, USA, 2014. ACM. ISBN 978-1-4503-2768-8. doi: 10.1145/2591062.2591191. URL <http://dx.doi.org/10.1145/2591062.2591191>.
- [2] Markus Raab and Gergö Barany. *Challenges in Validating FLOSS Configuration*, pages 101–114. Springer International Publishing, Cham, 2017. ISBN 978-3-319-57735-7. doi: 10.1007/978-3-319-57735-7_11. URL http://dx.doi.org/10.1007/978-3-319-57735-7_11.

- [3] Markus Raab and Gergö Barany. Introducing context awareness in unmodified, context-unaware software. In *Proceedings of the 12th International Conference on Evaluation of Novel Approaches to Software Engineering - Volume 1: ENASE,,* pages 218–225. INSTICC, ScitePress, 2017. ISBN 978-989-758-250-9. doi: 10.5220/0006326602180225.